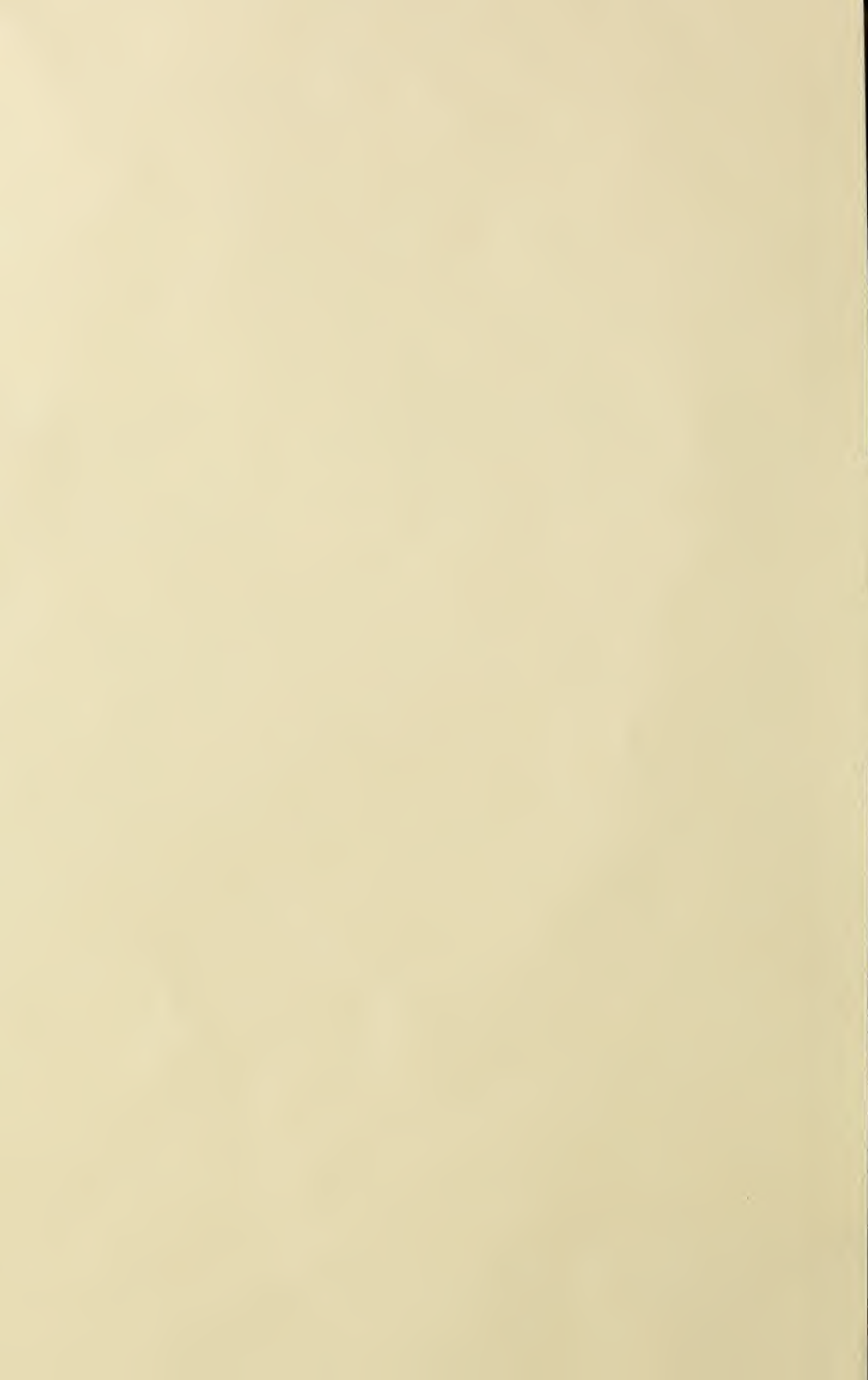


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GIFT

Gleanings in Bee Culture



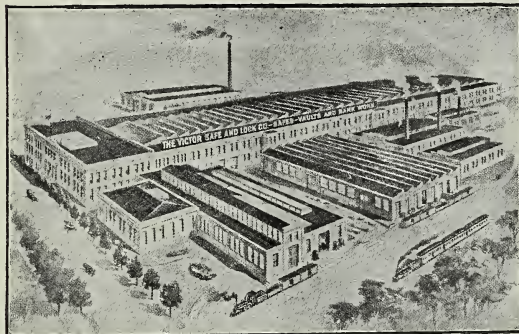
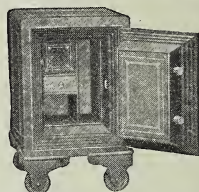
VOL. XL. FEBRUARY 15, 1912, NO. 4

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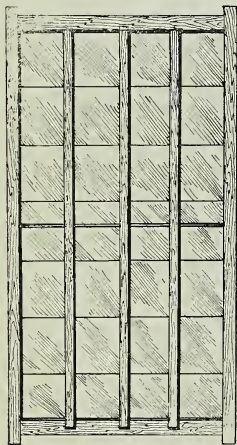
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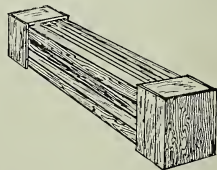
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Bundle of 5 sash, knocked down and crated for freight shipment.

THE A. I. ROOT COMPANY,

Medina, Ohio

Gleanings in Bee Culture

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VOL. XL

FEBRUARY 15, 1912

NO. 4

Editorial

IN our issue for Feb. 1, Stray Straws had a corner cut out. The fact is, we did not get our usual batch of Straws (or supposed we didn't) and thereupon accused Dr. Miller of carrying them in his pocket instead of mailing them. The "goak" is on the editor this time, for he found the missing Straws under a pile of papers on his desk.

ONE MORE OF THE PIONEERS GONE.

WE are sorry to announce the death of J. J. Ochsner, of Prairie du Sac, Wis. For a great many years Mr. Ochsner was one of the most extensive bee-keepers in his State, at one time owning six apiaries. His death, at the age of 83 years, which occurred January 15, was quite sudden, as his health was very good, owing to his firm belief in the value of fresh air and exercise. On the evening of January 10 he was reading to his wife, and had just finished reading our editorial notice of the death of James Heddon in the January 1st issue, when he was taken with a stroke of apoplexy, from which he did not recover.

Mr. Ochsner for a great many years was a reader of GLEANINGS, and we shall miss him as one of our most loyal friends.

HONEY STATISTICS, AGAIN; THE UNITED STATES CENSUS RELATING TO THE BEE-KEEPING INDUSTRY MISLEADING.

WE failed to observe in our comments on the census returns, last issue, page 67, that certain States had made a great increase in the number of colonies over the previous decade. In this list we find Arizona, California, Colorado, Idaho, Iowa, Michigan, Montana, and New Mexico. It will be observed that this list comprises some of the Western States where irrigation is being opened up and alfalfa is being grown largely. In fact, in nearly all other States of the Union there has been a falling-off in the number of colonies. Yet in spite of all these figures more honey and beeswax have been produced in the last decade than during the previous period. This shows conclusively that the business is going into the hands of the specialists, and that those specialists are securing larger returns per colony. While it is true that producers in some of the irrigated

regions are not making as large an average as they did in the previous decade, owing to overstocking, yet the box-hive bee-keeper and the movable-frame bee-keepers who don't read the bee-papers, and secured anywhere from five to ten pounds of box honey have been eliminated, or almost entirely so. The elimination of nearly a million of colonies with a very low average production in the hands of such a class of bee-keepers necessarily brings up the average of colonies in the hands of the better class of producers. It is a case of the survival of the fittest.

PARCELS POST.

THE following editorial from the *Rural New-Yorker* for Feb. 3 is so much to the point that we can not do better than to use it, with the suggestion that every one of our readers sit down at once and write to his Senators and Representatives in Congress, and do it soon. Here is the editorial in question, from our esteemed contemporary:

Next week we begin the publication of the most striking article yet printed on parcels post. Prof. Price, of Ohio, is in Germany, and he will tell us in a plain, practical way just how the German parcels post is conducted and what it does for the German people. The time is just ripe for this, for now is the time to move upon Congress. There is a Presidential election this year. As they stand, both of the old parties are discredited in the eyes of the public. The leaders know this, no matter how they may bluff and bluster, and one side will outbid the other for popular favor if the demand can only be made clear. Here then is the opportunity for parcels post. If Congress can let it die there will be two or four years more of inaction. Right now, at the opening of this Presidential year, is the combination of time and the hour. Let every reader of the *Rural New-Yorker* realize this. It is the time to strike. Do not pass "resolutions" or sign petitions, but spend 20 cents or more in postage stamps and go right at the two Senators from your State and the Congressman from your district and tell them what you want. Do not threaten nor make any promises. Treat them as men—a little more prominent than you are, but still men with a good judgment of human nature. They will know when you mean business, or when you are chicken-hearted, and they will give you business or "taffy" as they size you up. No one can win parcels post for you without your aid. It will do little good to curse these men at home or at the store. Use the talking tongue to stick a stamp on a parcels-post letter.

HOW THE BEES ARE WINTERING; WHY WE ARE OPTIMISTIC.

SOME fears have been expressed by some of our correspondents that the severe winter we have been having may cause a heavy

loss. In answer to this we may say that so far conditions have not been unfavorable where the bees have been *properly protected*, indoors or out. The winter, up to the first of January, was very mild all over the United States. This put the bees in fine condition. Then it turned cold and stayed cold, with one or two rises of temperature—enough so that the bees could turn over in their sleep. The very severe cold that has been prevalent throughout the United States will mean an early spring if history repeats itself; and whatever the bees may have lost by reason of the cold will be more than made up by later conditions.

A condition that causes severe loss among bees are cold and warm spells in January or February, or both, during which bees get started in brood-rearing. A cold snap of two or three weeks after that is almost sure to have a disastrous effect; that is to say, an ordinary winter in January or February, followed by bad weather in March, is usually severe on bees. So far the weather this winter has been favorable rather than otherwise; for a *steady* cold does far less harm than warm and cold.

Examination of our own colonies, for example, about two weeks ago, showed all of them in splendid condition. At the present writing, Feb. 14, the United States Weather Bureau shows a letting-up in the cold.

It is fair to state that this winter will be disastrous on bees unprotected or in single-walled hives outdoors. On the other hand, it has been favorable for cellared bees.

CITY COUNCILS LEGISLATING AGAINST BEES; MAKING BEES STAY ON THEIR OWN PREMISES.

OUR attention has been called to a paper that is being circulated in the town of Gibsonburg, Ohio, for the purpose of getting the town council to pass an ordinance prohibiting the keeping of bees within the corporate limits of the village. We obtained the names of the mayor and president of the council, and wrote letters to them, explaining the important position that bees occupy in the fruit-growing industry by pollinating the blossoms. We showed that the few bees kept in town are probably only a very small part of those kept within a distance of a mile or more; that, even if those in town were removed, the chances are that there would be almost as many bees flying about as before. We concluded by stating that any such ordinance is unconstitutional, and cited the celebrated Arkadelphia case. The history of this famous case was written up by Thos. G. Newman, then General Manager of the National Bee-keepers' Association, and we sent them a copy of the pamphlet.

Last September we wrote to the mayor and councilmen of Huron, Ohio, where an ordinance had already been passed compelling all bee-keepers (and we believe there was only one) living within the corporate limits to screen the bees in the hives during July and August!

There are often local ordinances prevent-

ing any one living in a village from allowing his chickens to have a free range over his neighbors' lawns and gardens. No one objects to this; but suppose there were a hundred poultry-raisers situated just beyond the limits of the corporation, and the chickens in all of these yards were allowed free range over the town—how much good would it do to build fences around the few chickens kept in town? The absurdity is all the greater in the case of the bees, as they would die if fenced in so long, and they do no real harm any way.

Just the other day a gentleman gravely told us that he used to raise a great many grapes, but that it was no longer profitable, because bees from somewhere stung all his fruit. These stories, believed and repeated by intelligent people, are enough to make one think the whole world has gone daft.

In several instances where drastic measures were being taken by grudge-holders in towns or cities, we have been able to offer some help by way of writing letters, as mentioned before, to the mayor or councilmen. We shall be glad to do this at any time, for we have some strong literature bearing on the subject, that shows that bees, instead of being opposed by the intelligent fruit-growers, are actually welcomed by them. They are asking to have the bees put in their orchards.

THE BEE-KEEPER AND POULTRY-RAISER.

WHILE we are in hearty sympathy with the advice of the late W. Z. Hutchinson, "Keep more bees," for some specialists, the far greater number of bee-keepers, for one reason or another, can not go into the business extensively enough to make it worth their while to devote their whole time to it. For example, in many localities bee-keeping on a large scale would not be profitable, because the bee-pasturage is limited, or because the seasons are too uncertain.

Then there are others, like Mr. Louis H. Scholl, for instance, who like to have some hobby aside from their main business, to provide a change of thought and work and a certain amount of pleasure. There are still others who have the ability to become specialists in some other business at the same time that they are specializing in bee-keeping. To all such we would recommend poultry-raising; for, in our opinion, there is no other line of work that dovetails so nicely with bees. As has been pointed out by several of our correspondents in this issue, one who is capable of making a success with the bee business is also capable of succeeding with poultry, and *vice versa*.

An objection that is frequently made against combining two kinds of business is that one interferes with the other, so that the best results can not be secured from either. This may be true to a certain extent with bee-keeping and farming, bee-keeping and fruit-growing, etc.; for when the bees require the most attention and thought, there is need of "all hands" on the farm or in the orchard. But with the

poultry business this objection does not apply, for chickens require perhaps the least attention when bees require the most.

He is an extensive bee-keeper indeed, in the Northern States at least, who can keep his time profitably spent during the winter. It is true that some bottle and sell their crop through the winter months, but so few producers have the time to make a specialty of selling that we do not find more than perhaps one bee-keeper in a hundred who utilize their winters in this way. A certain amount of work is required, it is true, in preparing supers, repairing, and, in short, getting ready for the next season; but this should not take all of the time by any means.

A poultry-man, along in January, is usually very busy starting incubators, getting brooders ready, etc. Later in the season, as the chickens become older, it is possible to have more and more of the work done by an assistant, so that the bees may receive their share of attention. Thus the two lines do not interfere with each other—a fact which is proven by the constantly increasing number of producers of "honey and eggs."

WHY THE CLOVERS DO NOT YIELD HONEY AS THEY DID IN YE OLDEN TIMES; CLOVER-SICK SOIL; LIME THE SOLUTION.

In our last issue, under the general heading of statistics relating to bee-keeping in the United States, we said we would have something further to say on the subject of clovers, and why they do not yield honey as formerly. We have heard a great deal concerning clover-sick soils; of land that will not grow red clover, but will grow alsike.

Many farmers who do not read the up-to-date farm papers have allowed their farms (as well as themselves) to become poorer and poorer until they have had to sell at a fearful sacrifice. For some reason, they do not know why, their farms have all "run down." Farms that used to yield their fathers and grandfathers big crops of clover, now yield sparingly. Something is wrong. "The land is clover-sick—no good; might as well sell out and get a job in town."

Later on, some up-to-date young farmer who has been to an agricultural school, or who thinks it pays to read progressive farm papers, comes along and buys one of these old farms that, through lack of knowledge, has all run down. Mark the change. In two or three years this "book farmer" (whom his neighbors ridiculed, perhaps) makes it as productive as when the country was new, or perhaps, in some cases, even more productive. How does this all come about? First of all, he begins to study the soil. He discovers it has been robbed, year in and year out, of some of the essential elements that make plant life grow. While stable manure has been applied, it does not supply every thing needed. In many cases these young farmers have found that the continued cropping of clover, year in and year out, has robbed the land of the

lime naturally in the soil until it has become too acid to grow clover as it should. In other cases, some other elements had been taken out.

It is getting to be the practice now among up-to-date farmers to send a sample of soil to the nearest experiment station in order to have it analyzed. In many cases the report shows a deficiency of lime; and when a farmer can not grow clover on his land in rotation with other crops he is in a bad way. Land that will grow alsike better than red clover shows a deficiency of lime; for alsike will grow on a more acid soil than red clover. The deficiency of lime in many soils has enormously increased the growing of alsike; and this has been of no small benefit to the bee-keepers. In some ways it may be better to let the farmer be in ignorance of the cause; but at this rate the soil will become too acid for even alsike.

Nearly all of Northeastern Ohio and the major part of Pennsylvania show a deficiency in lime. The same deficiency has been found in other States; Massachusetts, for example, doesn't yield any clover honey to speak of. The progressive farmers find they are able to remedy this condition by putting in lime; and when we can grow clover as we did in the days of our granddads, we shall have clover honey as they did. Unintelligent farming on the part of the don't-read-papers tillers of the soil has ruined many farms in the country. Their owners are badly in debt, and complaining of hard times. If there ever was a time when a farmer *ought* to be prosperous, it is right now; and any farmer who does not read a good farm paper is losing the great opportunity of his life to pay off those old debts and put aside a comfortable sum to take care of old age.

This sounds a good deal like an editorial for farmers; but the facts are, it is written for the farmer bee-keepers—not because they need the information, but because they need to get after their neighbors who are not reading papers. By so doing they can very greatly increase their clover pasturage, and clover pasturage means honey. In the mean time, we invite every bee-keeper, or any one else who reads these pages, to send to his nearest experiment station for bulletins on clover-growing and liming the soil. While it is not contended that lime is the only thing lacking (because clover will generally continue to grow some in spite of acid soil), it is contended that lime, where the soil is acid, will make it vastly more friendly to the clovers.

The editor had the pleasure of listening to Alva Agee at College Station, Pa., at a farmers' institute recently; and if there is a man in the United States who seems to understand this problem of making clover grow, through the use of lime, Mr. Agee is the man. Joseph Wing is another great authority. In later issues we hope to present something more from these men, particularly on *how* to lime the soil and what kind of lime to use.

Stray Straws

DR. C. C. MILLER, Marengo, Ill.

MR. EDITOR, please look at the sticker on the envelop that contains these Straws. It reads, "WE WANT the United States Government to establish a *parcels post*." These stickers can be had for \$1.00 a 1000 from "Parcels Post League," New York. [Good suggestion. See editorial elsewhere on the subject.—ED.]

BEES WILL build queen-cells when the queen is caged in the hive "about the same as if she were out of the hive entirely," p. 58. I suppose that "about" means that cells will be started sooner, and more of them, if the queen be out of the hive entirely. [We accept your modification or correction.—ED.]

LOUIS SCHOLL gives alfalfa as an example of honey with decided flavor, page 88. I've been buying alfalfa to use in hot drink, as being nearest a pure sweet without flavor, but I've lately had some with too much flavor. Wonder what is the rule about flavor in alfalfa. [Alfalfa varies somewhat in flavor, depending on the locality where it is produced. In the southern irrigated regions it is apt to be a little darker, and perhaps a little stronger in flavor. In the more northern regions the color and flavor are improved. In some localities there is enough sweet clover and mountain sage in alfalfa to mellow its taste. The same conditions that affect alfalfa apply to clover—that is to say, there is white clover and white clover—some extra fancy, most of it good, and some of it poor or "off."—ED.]

"EVERY modern yard nowadays has a scale-hive," p. 48. S-s-say, Mr. Editor, do you mean to insinuate that my bee-yard isn't modern? Well, if you will insist, I suppose that part of the yard isn't as modern as it might be. [Yes, sir, 'e. Put up a scale hive. You may have a modern yard, but it can not be clear up to date unless you have a honey-barometer, so to speak. We have been in many yards where the owners would about as soon get along without a veil as without a scale hive. If the colony on the scales is a fair average one, neither the best nor the poorest, it enables the owner to keep pretty close tab on the flow of nectar. For example, if a drouth is on, and the nectar supply begins to show a rapid falling-off, the bee-keeper will not put on any more supers. But if the weather conditions are ideal, and the scale hive shows a big gain every day, the bee-keeper will take the opposite course.—ED.]

YOU ASK, Mr. Editor, page 69, if I might not find outdoor wintering to my advantage if I should try it again. Entirely possible. Not very probable. I've always had an idea that bees wintered out in the open air would be more rugged than when in the close air of a cellar. Then there's the gain

of earlier breeding. But with a furnace in the cellar my bees have perhaps as pure air as outdoors. The earlier breeding makes some colonies stronger, but it also kills some colonies. At any rate, it is morally certain that I would have a loss every winter from wintering outdoors—some winters a heavy loss—while in my well-ventilated cellar I don't expect to lose a single colony from wintering in any winter. What's best elsewhere might not be best for me. [It would hardly pay you, evidently, to make any change; but a large number (mostly beginners) are not having success with indoor wintering. To all such, if located in a severe climate, we would recommend wintering four hives in one large case, as practiced by R. F. Holtermann, J. L. Byer, and H. G. Sibbald, of Canada, with such marked success. See pages 693 and 694, Nov. 15th issue. Where climates are extremely cold, these big winter cases, we believe, for four hives are the equal of any cellar.—ED.]

THAT EDITORIAL, p. 35, sets one to thinking. But if comb honey is so scarce, why don't quotations show it? In GLEANINGS the highest for comb is 18 and extracted 12. Hardly any thing in that to induce extractors to take up comb. It may be said that comb is a luxury, and above a certain price will not be bought. But it didn't work that way years ago when it was higher than now, and kept with the price of butter. It's too much of a muddle for me to understand. [Market quotations at the present time do not give the true index of the situation. Early last season there was a big demand for comb honey that could not be filled. Buyers, fearing that a large crop might be held in reserve, did not offer high prices, as they feared being overloaded. Shortly Western comb honey began to come in, and prices on comb honey that would have advanced were held stationary. Several buyers have told us that they could have sold ten times the amount of comb honey if they could have gotten it when there was a call for it. The best demand for comb honey is in the fall and before the holidays. If there is no comb honey to speak of, consumers will go without. If, on the other hand, we bee-keepers will raise more comb honey, and have it *ready in time*, we shall have no trouble in selling it—that is, if it is of good quality. At the present time there is just enough comb honey held by one or two large buyers to hold the market fairly even. But the point is this: There is always a good demand for more comb honey early in the season. In seasons of plenty the early shippers will dispose of their crops at good prices, while late shippers, if they wait till the holidays or after, may be hunting a market. Comb honey, however, is getting to be more and more of a staple.—ED.]

SIFTINGS

J. E. CRANE, Middlebury, Vt.

A capital idea that, in a footnote, page 712, Dec. 1, regarding the value of a mat of corrugated paper on top of sections. When the case is handled bottom side up the combs will rest on a soft mat.

That picture on the cover of the Dec. 15th number is very pretty; but it almost made my back ache to look at it, to think of the work required to inspect such a lot. A lot of fifteen or twenty, four inches apart, is bad enough without a roof over them.

Mr. Byer's appreciation of the value of dry sawdust for a cushion on top of the hive, p. 713, Dec. 1, is creditable to his good sense; but after having used sawdust for many years we have come to the conclusion that fine planer shavings are better.

Passing through the markets of Washington one day this week I saw a two-story shipping-case of the style Mr. Foster, of Colorado, has so ably defended, and I must confess it was a very attractive package; but I noticed that three of the six combs visible through the glass were broken loose from the wood.

Stopping near Howard University, a college for colored people, I was awakened early Christmas morning by the colored students singing Christmas carols, and it seemed almost as though the sky had again opened, and the angelic hosts were singing "Peace on earth, good will toward men"—a beautiful custom, surely.

Let me add my testimony to the value of windbreaks for wintering bees out of doors. In our climate I would go some distance to locate a yard of bees where there would be protection, after seeing a part of two yards wiped out where exposed to the wind while the rest of the yard wintered very much better. See page 675, Nov. 15.

I have noticed a good deal of discussion of late as to whether a two or three inch glass is best for shipping-cases. It has been many years since cases with glass have been used here in Vermont, and I am wondering how large a proportion of shipping-cases manufactured in supply-factories are made with a two or three inch glass side.

Wesley Foster tells us, page 647, Nov. 1, how to introduce queens by baptizing. Very good. I believe it was A. E. Manum who told in one of our State conventions many years ago how to introduce a virgin queen by giving her a second birth by caging her in a queen-cell and letting her gnaw out like a young queen, and they accepted her the same as a young queen.

On page 713 Mr. Byer expresses the idea that alsike clover is not a drouth-resister. Well, perhaps not as good as red clover, but, mercy me! how it can stand water! Red clover is nowhere in comparison, and I have noticed that, during a wet season, we usually have alsike clover, whether it could be seen on the ground the fall before or not.

Our friend Wesley Foster never seems to lack for good common sense, and his ideas on the value of reinspecting and the qualifications of an inspector are well worth reading, page 714, Dec. 1. It is certainly a great deal easier to burn hives of bees, and to be spectacular, than to teach bee-keepers patiently how to cure and care for their bees.

Mr. Gates' article, page 717, Dec. 1, is of great interest. I noted especially what he has said on the wastefulness of feeding bees in the open air. I believe we have a good deal to learn yet as to how much waste such feeding brings, and what is the character of the little drops that the bees let fall on their way to their hives. I am yet to be convinced that it is water they have separated from the sweet syrup.

Looking over the government green or propagating houses in Washington, I found that tests were being made of a large number of seedling melilotus clovers, or perhaps varieties, in order to find one with a very small amount of the characteristic bitterness. If successful in the experiment it may be used more extensively than at present as a forage-plant. If it should come into general use it will add much to our honey resources.

Mr. Chadwick, on page 748, Dec. 15, tells how the ranges of sage in Southern California are being plowed up and the bee-forage destroyed, and predicts the time when the waste places will be covered by plants of greater economic value. Let me say that I saw in Washington, alfalfa from Northern Africa that will grow where there are only three inches of rainfall, and another variety that required an alkali soil for thrifty growth. Still another from Northern Asia thrives where it is so cold that the ground never entirely thaws out.

The editorial on page 710, Dec. 1, on the value of shade, is full of good sense. I have contended in the past, I believe, that bees do as well in the shade as in the sun; but by watching I have discovered that there is a decided difference in favor of those shaded but little and those in a dense shade. "Confession is good for the soul." But I should think Mr. Robertson, page 725, used more shade than is necessary for his climate. For those having outyards, I fear his methods would not be practical.

Bee-keeping in the Southwest

LOUIS SCHOLL, New Braunfels, Texas

BEES AND CHICKENS; HOW THEY WORK TOGETHER.

I have decided to have something to say on this subject because it is the special theme of this issue, and because I have found that the combination of bees and poultry can be successfully followed, even by the extensive bee-keeper. In my case, I was much interested in pure-bred poultry even when a mere boy, and this interest has been the first incentive for keeping some poultry for a number of years. When my bee business was enlarged to greater proportions, so that it became a real business that was quite strenuous at times, especially during the rush of the season, the old slogan so often repeated, that "a business man should have a hobby to ride to take his mind away from his business cares," became one that received no little attention. Possessing that natural love and interest for pure-bred poultry, and seeing profitable possibilities in it besides the mere recreative value as a "hobby" to ride, besides already possessing a beginning in the dozen or more fowls in the back yard, poultry-breeding was adopted immediately.

I have ridden this hobby so successfully that my yards of Barred and White Plymouth Rocks, Rhode Island Reds, and White Wyandottes, are the best in the community, and are admired by many visitors who come to see them. The appreciation of this success has culminated in being chosen among the many poultry-raisers here as president of our poultry and pet-stock association.

The profits so far have not been large, on account of the initial investment necessary in the venture, which was really begun as a hobby rather than a paying dollars-and-cents business, but it has been a remunerative one from the very start.

It may be well to state that my beginning with poultry was just the same as that of my bee-keeping career. I had only a few fowls at first, just as I began with only a few colonies of bees. From this small start I began the upward climb on the ladder of success, as experience and better knowledge of what to do were acquired. I mention this to show the importance of beginning small and then growing into the business.

As a combination rightly managed, bee-keeping and poultry-raising may be profitably followed, even though neither line be restricted to the plane of a hobby. My own experience has left me without a doubt on this question. But it will be well to bear in mind that not all persons can manage too many irons in the fire, and such should not attempt the combination. Some reach their limit very easily with only a few hundred colonies of bees and no more, while some who could manage more bees can not look after two lines of business entirely different.

For those who want a "hobby," the keep-

ing of pure-bred poultry will fill a good place, and by those who want to combine bee-keeping with some other side line this combination will be found profitable if they are able to look after both properly. Those who find it better not to combine any thing else with bee-keeping should follow the late Mr. Hutchinson's motto, "Keep more bees," or my own, "Keep more better bees better."



MAKING A BEGINNING WITH BEES.

The cover design of the January 1st number of GLEANINGS was most appropriate for a beginner's number. It answers in picture, better than words can explain, the question so often asked, "How can I best make a beginning with bees?" The picture shows it. Order a two or three frame nucleus with a good queen of Italian bees from a reliable bee-keeper or queen-breeder. This will be shipped in a light crate by express so the shipping charges need not be very high.

In the mean time prepare a ten-frame hive. Have it nicely painted, and all the frames filled with full sheets of comb foundation except the two or three that will be replaced by the combs of the nucleus ordered. This hive should be nicely located in the shade of a tree where the morning sun brightens and warms up the hive in the fore part of the day, but where it is protected from the heat later.

With the hive material, have ready a good smoker and a bee-veil, so necessary in handling the bees. The smoker should be well started, ready to be used at the proper time, even with the gentlest bees; but the veil may be kept about the crown of the hat so that it can be pulled down over the face in a moment, in case of an emergency.

All in readiness, when the nucleus arrives take it to its new place of abode. After the veil has been adjusted, bring the smoker into play, blowing just a little smoke over the bees as the shipping-crate is pried open and the nucleus placed in the hive. Of course, you must admire the beautiful bees as the combs one by one are carefully handled. The next thought is, How does the queen look? To some it will be a little difficult to find her at once; but a little practice will soon enable the beginner to spy her very quickly. When the combs are all in place, the hive closed up, and the rest of the bees shaken out of the crate in front of the hive, it is a pretty sight indeed to watch them enter the new home with a loud hum of gladness as they fan the air with their raised wings.

If flowers are in bloom and nectar is plentiful, the bees will soon make progress and will build out the foundation into beautiful straight combs in the rest of the frames.

All this, and more too, is brought vividly to our minds by gazing at that cover design. A better one could not have been chosen.

BEE-KEEPING IN CALIFORNIA

P. C. CHADWICK, Redlands, Cal.

January is rapidly passing, with little rain of any consequence, and barely enough moisture to keep the surface growth alive. We have only about eight more weeks in which we may reasonably expect rain, making the outlook at best rather dark.

A book that I value as highly as any in my library is "Langstroth on the Honey-bee," published in 1870, two years previous to my birth. It was presented to me in 1886 by Mr. E. A. Rhea, of Loring, Kansas, and was the foundation of my knowledge of bees.

A capping-melter is not a great necessity here. If there is sun enough to warm the air sufficiently to extract, you can usually get your cappings melted in a solar extractor; and what little honey goes out with the drained cappings will very likely come in handy to feed weak colonies later on.

Those in reach of the orange may get the usual orange flow, for the month has been exceptionally warm, and breeding has started in earnest; many queens have spread three or more combs of eggs. I consider this of no advantage to those on sage ranges; for if the dry weather should continue it will cause heavy breeding, which will mean large consumption of stores that may be greatly needed before another season.

I was offered 25 cts. for the best wax delivered at Los Angeles, but an eastern buyer offered 28½ cts., F. O. B. I wrote to Los Angeles, regarding the other offer, and received this answer: "Your party who is offering 28½ cts. is, in our judgment, over-shooting the mark." I shipped the lot, 202 lbs., east and received check for \$57.57—\$7.50 more than I could get in Los Angeles. Most of our Southern California wax finds its way into Los Angeles, where at times the receipts are quite heavy, and prices slump beyond reason.

During the winter many sojourners from various parts of the country, who are interested in bees, have called on me, and I have enjoyed these visits very much. To those who may yet come, I would ask that you call at my home, 725 East High Ave., after 7 P.M., where you may have an hour or two and welcome; but do not expect me to beguile you to come to our State, or you will be disappointed. If you are succeeding where you are, why change? If not, find out the reason, for it may be your own fault, and a fault not easily cured out here. There are more paying locations, not taken, in many States east

than there are in this State. You of the East have cold winters, to be sure; but loss from actual cold is much less than the average bee-keeper thinks; for every colony that dies is said to have "winter-killed," regardless of other conditions. Our normal mortality rate here is over 10 per cent.

My first bee-hive was a "George"—the only one, to my knowledge, ever manufactured on a rush order by this process. George, whose last name is Kutchenthal, had been married to my sister but a short time, and had not acquired a very large stock of tools. I was helping him plant corn on my fourteenth birthday, when I found a swarm of bees on a bush—the first swarm I had ever seen. I wanted them badly, but had no hive. George came to my rescue with a sharp hatchet and a 1×12 rough pine board. He soon had a hive chopped out and nailed. The hiving was successfully accomplished, and the foundation laid for my first apiary. Thanks to George.

The advisability of compensating for colonies destroyed by inspectors, mentioned by J. L. Byer, p. 5, Jan. 1, like all questions, has two sides. There have been cases in this State where inspectors have been guilty of no less than wanton destruction of property in their over-zealousness to enforce the law. On the other hand, some have been so grossly negligent that conditions in places have become deplorable. An inspector should be a man of good judgment, and should try, as far as possible, not to destroy any thing of value. Several cases have been called to my attention where quantities of hives and combs have been burned. There is no excuse whatever for such drastic action. The wax and hives are not diseased, and, if thoroughly boiled, could be saved.

Our so-called State association has been called for Feb. 6, 7, 8, at Los Angeles, which will be long before this reaches the readers of GLEANINGS. It is my earnest hope that the various organizations over the State may be amalgamated into what may be properly called a State association, our so-called State association being in reality no more than a Southern California organization, and should be so termed until all our smaller ones are included with us in one grand and truly State organization.

Since writing the above, GLEANINGS has come to hand, and I have read the words of Mr. Harry K. Hill, page 55, Jan. 15, and for the most part I agree with him. The northern brothers feel that it is a case of the tail trying to wag the dog, which belief, I believe, is not entirely unfounded.

Conversations with Doolittle

At Borodino, New York

KEEPING LOTS OF BEES.

"How many colonies of bees should one keep to be a well-to-do apiarist? I became interested in bees two years ago, and bought five colonies. I have fifteen now; and my sales, since I began, have been about \$156. I have been figuring a little on keeping 50 colonies, and from my experience so far I thought I might average \$500 a year from that number; but I have just read that no apiarist becomes well-to-do unless he keeps a lot of bees. The writer of the article advocated keeping several out-apiaries, numbering from 50 to 100 colonies each, besides having as many colonies in the home apiary as his field would support. If I must engage in bee-keeping on such a large scale in order to become well-to-do I shall feel somewhat like abandoning the whole thing."

"Much will depend upon the way you interpret that expression, 'well-to-do,' as well as the meaning of those four words, 'a lot of bees.' We will consider the last four words first. Some would construe these to mean a lot of bees in each colony. How often has it been reiterated that a colony of bees numbering from 50,000 to 75,000, and even 100,000, produces the best results, while one from 10,000 to 15,000 gives its keeper little if any surplus! In spite of the prevalent idea that bees work for nothing and board themselves, the colonies numbering between 10,000 and 20,000 are the rule rather than the exception, and, consequently yield only a small surplus, even though a bee-keeper may count his colonies by the hundreds or thousands.

"With such small colonies a much greater proportion of the whole colony must stay at home to care for the inside needs of the hive, thus leaving few fielders, than in case of the colony having 100,000 bees where 10,000 can care for the inside work, and 90,000 can go to the field, thereby rolling in an amount of honey that is sure to insure success.

"Then, too, these 90,000 fielders should come on the stage of action at the right time for the best nectar-yield, whether from clover, basswood, buckwheat, or what; otherwise they may not be as satisfactory as the smaller ones; for 90,000 bees on the stage of action at the end of any flow of nectar become consumers instead of producers; and unless another flow comes before they live out their 45 days of useful life the stores of the hive will constantly decrease, and the keeper of such colonies be compelled to feed for winter. From a financial standpoint the man who can keep 500 or 5000 colonies of bees so that each colony will have from 75,000 to 100,000 active fielders when the main flow of nectar is on, will far outshine the man who is contented with only 50 colonies.

"As to the expression, 'well-to-do,' suppose there is a bee-keeper who is capable of

bringing up to the necessary standard 500 or 1000 colonies of bees in several out-apiaries, and that he is able on the average, year after year, to do as well with them as our questioner hopes to do with 50 colonies, his income each year would be from \$5000 to 10,000, and, doubtless, in the eyes of the world he would be considered well-to-do. Yes, and I must confess that, by the great majority of the masses, this would be the feeling; for in the up-to-date newspaper lengthy articles are devoted to one who has been separated by death from his millions, but merely a scanty inch in some obscure corner is given to the one who has secured *eternal life* by believing on our Lord and Savior Jesus Christ, with a fortune in this world of only \$100 left for his burial.

"But let us come back to our questioner: He can keep his 50 colonies without the extreme exertion, racking of brains, and the muscle required by a larger number. He can have time to examine into the minutiae of affairs inside the colony; to go into scientific research, to study nature, and, from this, nature's God. In short, his powers can be spent in the uplifting of himself and those about him above the sordid things which come to the one whose only god is money. But can a man be considered 'well-to-do' with an income of only \$500 a year? The majority of the families in the United States do not have that income, and many of the preachers of the gospel, who are successful in winning many souls for Christ, do not have a larger salary. A good definition of 'well-to-do,' from my standpoint, would be, contentment, with godliness, is great gain."

[Mr. Doolittle is absolutely right when he emphasizes the importance of a large force of bees of the right age *in time* to go to the fields. We also wish to indorse his sentiments regarding the "well-to-do man."—ED.]

Cotton Smoker Fuel.

It is unfair to jump on a fellow just because he has said something you *think* isn't so; but when you walk all over him afterward it is stamping it in. You fellows can keep right on using cotton rags and waste for smoker fuel. It's wholly your party; and if you prefer the sort of fun which it brings I wish you happy days. *Greasy* cotton waste is an entirely different proposition, and I didn't say anything about it, but merely talked of cotton. The grease gives a very different result, also a stink; and, furthermore, greasy waste is prone to spontaneous combustion—particularly so with some oils. A handful of it in a workman's pocket called his attention to its presence by consuming a sizable portion of the front of his overalls and trousers, and anointed him with a large and rosy blister. Happy days!

Well, boys, if you will fill two smokers, one with cotton rags or dry waste and another with burlap or wood in some form, then work ten colonies with one, then ten with the other, and so on, you may be inclined to leave me alone and let me catch my breath. If you can not wait to try the trick, ask Latham.

Providence, R. I., Jan. 29. ARTHUR C. MILLER.

General Correspondence

BEES, POULTRY, AND TRUCK-GARDENING IN FLORIDA.

BY FRANK M. BALDWIN.

My experience last October may help the readers of GLEANINGS to form a better judgment of this part of our great country. I came into this section in June to do some preaching; found surveying also, and have been here most of the summer. After preaching Sunday at Palmetto I took an early train Monday to inspect seventy-five colonies of bees on the edge of the Apopka Marsh, in Orange County, that Mr. W. S. Blaisdell had offered for sale. Mr. B. is old and infirm, and wants to convert his apiary into cash.

He was awaiting my coming at Gainsboro Station, and soon we were journeying behind his mule, toward his home, three miles away on the banks of the canal that was made for the purpose of draining the 50,000 acres composing the big marsh. This tract is rich sawgrass land, similar to the Everglades. The effort to reclaim it was not successful. The canal must be dug deeper and wider. Darkness overtook us just as we arrived at the house, and on this account the examination of the bees had to be postponed until Tuesday.

INSPECTION OF THE BEES.

The morning's inspection revealed a fine healthy lot of bees in old and worn-out hives. The style and sizes are original with their owner, and have given him the best results. He makes them from native lumber, much of it undressed. They have served him well for seventeen years, but are no longer strong enough to withstand three miles of jolting in wagons over rough roads to be followed by 150 miles in a freight car. The thought of buying and taking them to Parish was reluctantly abandoned. They were strong in bees and brood, in just the right condition to gather the honey-flow from goldenrod and myrtles. Mr. B. expected to extract three tons of superior honey from them within the next sixty days. He usually gets two crops—one from saw-palmetto in the early summer, the other in the fall. Last fall the marsh was too wet, and he got no surplus. This year conditions are more favorable than usual, and he hopes to make up in some measure for the failure of the palmetto in May and June. He is not near enough to any groves to get the benefit of the orange-bloom in February. It is only once in seventeen years that the two flows have failed him, and I believe he has never had to feed his bees.

Mr. Blaisdell took me down to see the old drainage canal. On the banks I met and talked with Mr. Belamy and his son, who are making a living from four acres of extra good truck land, and are salting something down in the bank. They use no fertilizer

and grow no celery. All other Florida vegetables are planted by them and sold at a local market. They rarely ship north. Three small towns within twelve miles of their patch take all they produce.

Mr. Blaisdell has 27 acres of rich land that his bees have paid for; and his neighbors say his industrious insects have paid for the fertilizer and labor he has wasted in his attempts to grow and market vegetables. Here was a convincing illustration of the truth that one must find out what he can do best, and devote himself to that. Truckers and bee-keepers are born rather than made.

TRUCK-FARMING.

At noon the train was again boarded. This time the destination was Sanford and the fall meeting of the Presbytery of St. John. While there Mr. and Mrs. Rosetter entertained me with true Southern hospitality. Mr. R. has a truck-farm of 40 acres, three miles in the country, which he and his son operate. He lives in town and the son on the farm, though both of them spend all the daylight hours in the field with their hands. Six helpers are employed all the year, and in the busy season as many as forty are at work. Lettuce and celery are the principal crops, and the seed which was sown in the beds several weeks ago is now up. The former will soon be transplanted into land which is now being carefully prepared for it.

Early Thursday I went with Mr. R. to the farm and enjoyed a two-hours' inspection of the seed-beds and the well-tilled ground. The seed-beds are more than half a mile in aggregate length, and are tended with great care. Lettuce requires ninety days from the time of planting until ready for the market; and celery about six months' time and labor. Beans, potatoes, etc., follow. Then corn is planted. This year this—the third crop on the land—yielded more than fifty bushels to the acre. This intensive farming calls for a ton of fertilizer to the acre.

There are ten artesian wells on the land, and rows of small tile have been laid 20 feet apart and 18 inches deep to use their water in sub-irrigation. Four thousand dollars' worth of boards for blanching celery are stacked up in great piles near the many buildings. These last, together with the many wells, tile, and other improvements, have called for an outlay of \$28,000, over and above the cost of the land (a rather large investment on forty acres). When, as in 1909, the crop brings less than it costs to raise it, the feeling must be rather bitter. But they do well most years. Once they netted \$12,400 from 16 acres.

The Sanford Board of Trade, to show what is being done in this favored region, took the Presbytery for a launch ride across Lake Worth Wednesday afternoon, and for an auto ride among the celery-farms Thursday.

A POULTRY FARM.

Mr. Throop, a man nearly seventy years old, has *three thousand* White Leghorns on his poultry-farm at Enterprise. He was feeding them corn. He is hale and vigorous, looking less than fifty. He keeps 2000 laying hens. One-third of the present flock are not old enough for the laying-pens. His birds are in fine condition. The old ones have about finished moulting, and will soon be "shelling out" lots of eggs. The average is 130 a hen per annum. The eggs sell at 35 cents a dozen to regular customers. Feed and corn cost from \$1.30 to \$1.40, according to the price of grain. Mr. Throop prefers to buy rather than grow feed. As the care of his flocks calls for all his time, he lives among his birds. They need constant attention 365 days in the year in order to net \$2.40 per hen. Two thousand times \$2.40 is an attractive income. But don't drop every thing and rush into poultry, for you may not have the genius for many details, some of them very unattractive, that make success in that business. Poultry-keepers are like truck-growers—born with a gift for it. Go very carefully until you find out what you can do, then go your length at that. Many have tried to imitate Mr. Throop. They are now sadder men, and, let us hope, wiser ones.

My judgment after two years' experience in Florida is that it is the land of opportunity for a great many. Yet it will bring loss to more than it will bring benefit. Its climate is its greatest asset. Do you need winter warmth and comfort? Have you the money or the energy to grow truck or develop an orange-grove? Come down. You will find the climate everywhere. The proper location for the others must be carefully sought. Much time and investigation must be given to it.

Parish, Fla., Oct. 16.

SYSTEM IN BEE-INSPECTION.

BY WESLEY FOSTER.

I am enclosing an inspection-report card which I have gotten up from suggestions received from the State Entomologist of Indiana, and from Dr. Phillips. The object of the cards is to save making a second inspection in every case. As Dr. Phillips says, the more we can accomplish in making each bee-keeper realize the importance of doing what he can to stamp out the disease, the more valuable will the inspection be as an educative force.

The cards, when torn along the perforated line, are card-file size, and can easily be kept for reference. The top-card is filled out by the inspector and signed on the back by the bee-keeper whose bees have been examined. This top card is then torn off and retained by the inspector, as it contains a record of the work done as well as a signed statement that the bee-keeper will treat the colonies that are diseased.

The lower card is filled out and given to the bee-keeper as a notice to treat all diseased colonies. The bee-keeper, when he has treated the bees, signs the statement of treatment and mails the card to me. The inspector in the meantime has sent the top card to me so that, if I do not receive its mate within the time allowed, I can write him to learn whether the bee-keeper has treated the colonies, or I can write directly to the bee-man, asking for an explanation for not receiving the statement of treatment as agreed.

I have used this plan in some of my inspection work this past fall, and it works well. The only difficulty is in getting a prompt report from the bee-keeper. Some have to be written to once or twice before sending in the statement of treatment.

The limit of time in treating colonies has been placed at ten days, though there will be cases where less time will be given, and some cases may arise where more may be given. This matter rests with the inspector.

Boulder, Col.

Upper card (front).

Owner
Location
Number of colonies inspected
Number diseased
Number in box hives
Remarks
Date 191 Inspector

Upper card (back).

STATE OF COLORADO

ENTOMOLOGICAL DEPARTMENT.

Sirs:—I agree to follow the instructions for curing the colonies of bees affected with foul brood, and to mail statement of treatment before 191.....

Signature of bee-keeper.

Lower card (front).

..... Colo. 19.....

OFFICE OF STATE ENTOMOLOGIST

WESLEY FOSTER, STATE BEE INSPECTOR, BOULDER, COLORADO.

The Bee Inspector has this day examined the bees belonging to and found colonies affected with foul brood. All bees having any form of foul brood are to be treated as indicated on the back of this notice.

STATEMENT OF TREATMENT.

I have treated all the bees mentioned as diseased above, and have carefully followed the directions.

Signature of bee-keeper.

Mail this card, as agreed, before 191 , to Wesley Foster, Boulder, Colorado.

Lower card (back).

TREATMENT FOR FOUL BROOD.

In the evening, after the bees have quit flying, brush or shake the bees from the old combs into a clean hive containing no drawn comb.

Burn all the old combs *at once*, not the next day. Do not allow even the smallest drop of honey from the diseased colony to be exposed to robbers, or the disease may be carried back to the healthy colonies.

The hive bodies, covers, and bottoms may be saved by scraping all wax and propolis from the interior surface and charring with a blaze from kerosene poured over the inside of the hive.

If no honey is being gathered from the flowers, the treated colonies should be fed or given combs of honey from healthy colonies to fill their hive, after the bees have been on the starters for at least 48 hours.

DUCKS AND DUCKLINGS DOWN IN FLORIDA.

More about the Duck that Laid 100 Eggs without a Miss.

BY A. I. ROOT.

[To the question, "What occupation goes the best with bees?" we have often replied, "Poultry-raising;" but W. Z. Hutchinson's invariable reply was, "More bees." If our senior editor, the writer of the following article, were asked what occupation goes the best with poultry-raising, we fancy he would say, "More ducks."—ED.]

On page 61, Jan. 15, I said the duck that gave the 100 eggs without a miss was still laying. Well, to-day, Jan. 22, she is still at it, making nearly two months without a miss *this* winter. Of course, there is a possibility of a mistake; but as her eggs are of a slightly bluish-green tint, and also larger, than any of those laid by her daughters, a mistake is not likely. None of her numerous daughters have so far come up to her. Like the good woman described in the last chapter of Proverbs we can say of her, "Many daughters have done virtuously, but thou excellest them all."

While speaking of the size of duck eggs I believe it is usually the case that most of them vary more or less in size. Well, I am led to believe this is largely a matter of nutrition. For some time I had been leaving a pan of corn with them all night long; but finding the birds and rabbits were also helping themselves I covered their grain the

last thing at night, and uncovered it at daylight. By so doing there was a saving in feed; but I soon felt sure the eggs were not uniformly as large. To get up a good-sized egg every 24 hours requires good nourishing food, and that *without stint*.

Up to Jan. 11 I was boasting among the neighbors that I was getting four eggs a day



A. I. Root admiring his favorite Buttercup rooster.



The duck that laid 100 eggs without a "skip," together with her comrades, as they go out every morning on the drainage canal. The two with the dark bills are ducks, and the two with yellow bills are drakes. The drakes are also lighter in color.

from four ducks right along; but on Dec. 31 one of my laying ducks did not get home at night with the rest, and Mrs. Root then reminded me that one of our largest drakes failed to return the day before *Thanksgiving*. At the time, I explained it by saying the alligators must have taken him, as they were going up the canal nearly half a mile every day. By the way, Mrs. Root thought I had got it a little too strong when I said nothing was ever stolen in our neighborhood, and remarked, "Do you think it reasonable that an alligator would take a particular fancy for a fat drake just before Thanksgiving, and again for a duck just before New Year's day?"

Well, I still feel sure no one around here has harmed my ducks; but if they really were stolen I think it was done by strangers from afar, who are usually prowling about with guns at this season of the year.

Since Jan. 1 I have been getting only two duck eggs a day much of the time, the two younger ducks not doing as well as their mother a year older. One of them, after finishing her laying, wanted to sit, for about a week; but, notwithstanding, I am putting every egg under hens or in the incubator. Out of 51 eggs in the incubator, 45 were fertile; but I hatched out only 19 ducklings, most of the rest having "died in the shell." I wrote to Cyphers people about it, and they seemed to think I did not give the eggs sufficient cooling.

The incubator is running again with 47 fertile eggs, and so far (11 days) they seem to be strongly fertile. As I hatched only 19

I said to myself I would take great care and not lose a duckling; but just this morning (when they are 11 days old) I found one squeezed in between the fireless brooder and the fence. How could I have been so careless as to leave such a place instead of pushing the brooder clear up to the fence, leaving no vacancy? Perhaps "locking the stable door *after* the horse is stolen" is better than doing nothing; but I would give a silver dollar to have that bright lively little friend back to life again, and to cure the sting of a guilty conscience that follows me all the day long. The fireless brooder answers here beautifully with ducklings. At first for a few nights while it was quite cool I gave them a heated brick; but I am led to believe it was not necessary; for one night when it seemed warm I omitted it, and it turned suddenly cold with a trace of frost. They were only about four days old, and I went out just at daylight with fear (and trembling) that they might all be stiff with cold. Not so. As soon as the entrance was open, out they shot and took a run clear to the other end of their yard in the frosty morning air; and after a big feed they cantered about until the sun was up.

Now in regard to the pictures accompanying this article. If you will turn back to my "duck story," April 1, last year, you will get a much better idea of them. While on the train coming here one man remarked to another, pointing to me, "Is not that the chap that goes down to Florida every winter to raise ducks to feed to alligators?"

Eggs are now only 30 cts. a dozen, so that



The waterfall that comes down over the mouth of the "alligator cave." It is made to spread out like a great soap bubble by the stream falling on the smooth surface of an inverted five-cent fire-shovel.



The mother Leghorn hen that did not hesitate about tackling an open-mouthed alligator in defense of her ducklings. The waterfall and alligator cave are just behind her. The drainage canal is right on the other side of the poultry-netting.

it takes rather more than nine eggs a day to feed the whole lot; and the way the 18 ducklings are beginning to tease for their meal, bran, and middlings, wet up with sour milk, the feed-bill promises to get *still* larger; but as I am getting from 30 to 40 eggs a day they are paying very well after all. The ducklings are crazy for lettuce; and here in Florida, at least, it would seem that lettuce is almost as necessary for all kinds of poultry as wheat, corn, and oats.

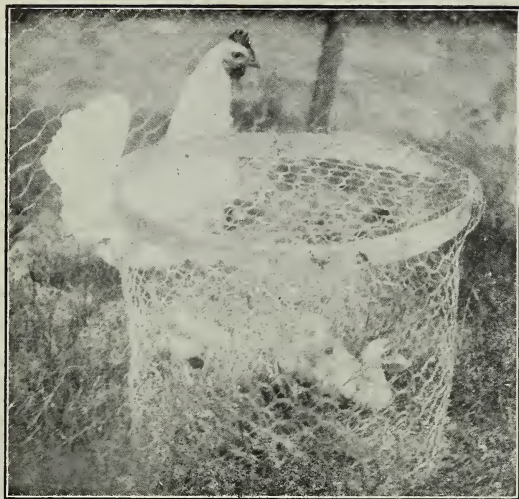
GIVING THE WEAK-LINGS A FAIR CHANCE.

About a year ago I told you of a single duck egg that was under two different sitting hens, and was finally hatched in my home-made incubator. Before the egg was even pipped, the inmate would peep every time I tapped with my finger-nail on the egg. Well, after he

was hatched I put him with some incubator chicks that were several days older than the duck, and of course they "made life miserable" for him, especially at feed-



Another view of the Leghorn hen and her ducklings, giving also a glimpse of box with netting front, where they are secure nights from all sorts of "night prowlers."



"The house of refuge." Netting "protector," for giving the weaklings or younger ones a fair chance.

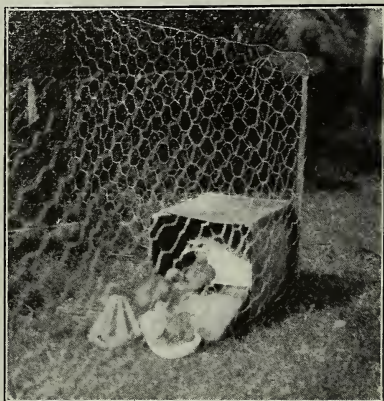
ing time. As he was younger; and as ducks must have soft food when first hatched, I tried to give him bread and milk; but, dear me! he was "snowed under" before he got a single bite of the dainty prepared for him alone. Finally I "got busy;" and with the aid of a barrel-hoop and some inch-mesh netting I made the very handy implement pictured above.

In the picture it is shown placed over the ducks hatched out by a Leghorn hen, for we make use of it for many different emergencies, such as catching a chick or chickens that have "sticktights" or "sorehead," shutting up a sitting hen so other hens can not intrude, penning up a sitting hen (so she can't "bite") while you arrange her eggs or nest, and for various other purposes;* but it answered the purpose most admirably with my "lone duck." When I gave him his bread and milk and some water where he could satisfy his vigorous appetite in peace, while a "howling rabble" surrounded and climbed over his stout barricade, it reminded me vividly of the words of that beautiful and comforting passage in the 23d Psalm: "Thou preparest a table before me in the presence of mine enemies," etc.; and also of the promise, "Thou wilt keep him in perfect peace whose mind is stayed on thee." Dear reader, it just now occurs to me that this is not *altogether* a chicken story nor even a duck story, and I am going to switch off just a little to ask you if this Bible promise is indeed true, as I have held it up before you? Does the great Father ever place a shield or screen around us so we can actually "sit down" in quietness and peace

while the ungodly are leaving no stone unturned to misrepresent and defeat us? I am sure he does. If we fail to find that haven of peace and security when we need it so much, the fault is ours and not that of the great Father who loves us, and loves to have us come to him when weary and overburdened. Read once more the inspiring and comforting words I copied from the *Sunday School Times* on page 30, Jan. 1.

Much is said about hens' nests that are vermin-proof, or nests made of metal so that not only can vermin find no hiding-place, but the whole nest-box may be most effectually "fumigated" by simply lighting a match and setting the nesting material on fire. Such a nest I have figured below, and every *bee-keeper*, at least, can usually find such a nest-box on his own premises without costing him a cent.

Cut out half of one end, as shown in the picture; turn down the flap for a slanting doorstep, and you have a nest that will hold a hen and chickens at night safe from all prowlers, if you just fasten a bit of inch-mesh netting over the open front. As the five-gallon can is air-tight, you will have to close it with netting, especially in warm weather, to give the hen and her brood plenty of air. And this reminds me that, up to this date, Jan. 20, we have not seen an insect nor disease of any sort on any fowl on our premises, and I can almost say we have not seen a house-fly. Very likely the latter is because Mrs. Root is so extremely careful not to leave anything outside or inside that can bait the flies and cause them to "hang around" our premises. Truly, prevention is better than cure. The last of the two pictures shows the tin-can nest occupied with a hen and her ducklings. She has gone in for the night; but a couple of the youngsters seem to be



Hen's nest and "all-metal" coop for hen and chicks.

* When a hen steals a nest out in the open, and wants to sit, I just set this over her as I go around the last thing at night, and leave her thus shut up and protected until I gather the eggs next day, when it is removed to let her out for necessary refreshment.



J. F. Kight, Southport, Ind., who has successfully combined bee-keeping and squab-raising.

tardy about "getting to bed." They probably want to make just "one more" visit to the feed-dish and little drinking-fountain.

BEE-KEEPING AND SQUAB-RAISING COMBINED.

BY J. F. KIGHT.

As the good old farmer used to say, "I have just laid my crap by." Well, I have just now (Nov. 24) laid my bees by until next April. I have the hives side by side

standing on planks 6 inches off the ground, with leaves under and all over them, a foot deep. They are well covered, and shielded from the west and north winds; yet I am a little afraid I shall lose a few. Last season was the hardest known for bees in this part of the State for many years. They got no honey during July, August, and September, and only a little in October from the white aster. During July and August I fed my 13 colonies a barrel of the best granulated sugar, and yet they did not seem extra heavy when I put them away. Only a few around Indi-



Bees and chickens in the same back lot, Detroit, Mich.

anapolis fed their bees, and I predict there will be more dead bees in this county next spring than have ever been known to die in any one winter. In fact, I now know of several colonies already dead, whose owners would not feed. If mine don't all die I expect to pick up a lot of empty combs in the spring.

I am combining the pigeon business with my little apiary. I keep both as a diversion from my regular business, and have a competent man to assist me.

While my bees are sleeping, my pigeons are making me nice money in the way of squabs and breeders. I have just sent a \$175 order to California, so I can not see why the bee and pigeon business will not go together nicely.

Southport, Ind., Nov. 24.

BEE-KEEPING AND POULTRY-RAISING IN A CITY.

BY L. LIST.

The regular readers of GLEANINGS need not be told that bees may be successfully kept in the city. They have often read about it, and some have tried it themselves. There are two points of interest, however, in the accompanying picture. In the first place, it shows that bees and poultry may well go together. One of the regular contributors of GLEANINGS recently stated that his Rhode Island Reds proved to be a nuisance in the bee-yard.

Our White Leg-horns never molested the bees in any way, but, on the contrary, treated them with marked respect.

Another fact worth mentioning in regard to the photograph is this: Our bees stand within six inches of our church school, which is attended by over 200 children. There has never been the slightest complaint. There are no windows on the south side of the building, and the bees have their flight in that direction. Even if there were windows, I would not be afraid of trouble, because bees are not nearly as vindictive as commonly supposed.

For four years this apiary has been run for extracted honey, and there has not been a single swarm during this time. Plenty of super-room and bottom ventilation kept back the swarming fever. I may add that this photo was taken in the prosperous season of 1910, and not in the poor one of 1911. You will notice that most of the supers are of the shallow kind; and I would advise the novice who is keeping just a few bees and runs for extracted honey to give them a fair trial. I have followed the advice of the gentleman from Texas, Mr. L. H. Scholl, and have never regretted it. The deep supers may be better for the owner of many colonies, because a given amount of honey may be more quickly extracted; but for the man with few colonies the shallow ones are ideal, because they are more easily handled, and do away with the heavy strain on the back.

Detroit, Mich.



Bert H. Masters in his bee-yard at Edison, Ohio. Mr. Masters now has winter cases on all his hives, which he leaves on all summer.

BEES, CHICKENS, AND DUCKS GO WELL TOGETHER.

BY BERT H. MASTERS.

In my experiment with chickens, ducks, and bees, I find that success depends largely upon the amount of care taken. I have always been successful; and, since I can not supply our regular trade with honey, eggs, and poultry, I am arranging this year to increase my apiary to 75 or 100 colonies, and to double my poultry business. My intention is to keep only the best stock.

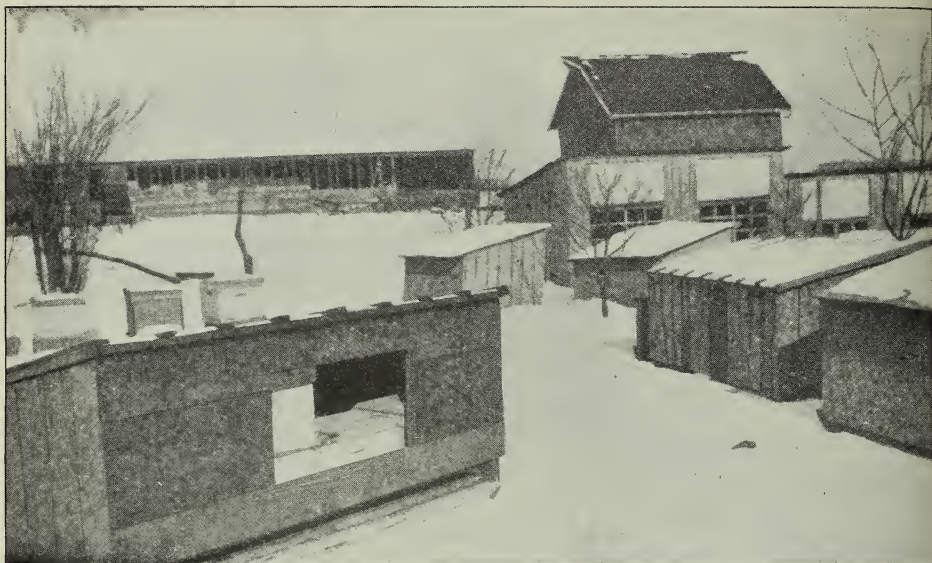
My two boys are wonderfully interested in GLEANINGS, and are storing away in their minds every thing pertaining to bees and poultry that they can get hold of. I intend to give them full charge of the yards this year to try them out.

The boys insist that I mention a little egg-basket which has been in daily use for a period of 38 years. It belonged to their great-great-grandparents, and it holds six dozen eggs. We have just laid it aside to be kept as a relic. It has averaged three trips to market per week for 38 years. If you take your pencil and figure this out, you will be surprised at the number of eggs that this basket has carried. I do not know the average price during all this time, but I believe it has been about 15 cts.

I have discovered a great remedy for millers and moths, and I have been much interested in watching the practical demonstrations of my discovery. I put my eighty Indian Runner ducks in my bee-yard one evening when the millers were quite bad, and the ducks were victors in a very short time. I am confident that they prevented



Some of Bert H. Master's chickens at Edison, Ohio. He finds that chickens, ducks, and bees go well together.



R. O. Dickson's poultry-yard, La Harpe, Ill., showing brooder-coops used as winter cases, for 55 single-walled hives of bees. Chicks occupy the coops in the summer in connection with Cypher hovers.

the millers from getting the upper hand of several weak colonies.

I winter my colonies on the summer stands, but I use winter cases packed with shavings. I do not remove these cases now, but leave them on all summer, as I have

found this advisable on account of the sudden changes of weather which we have. When preparing for winter, I cut and fit several thicknesses of building-paper and place them over the top of the hive-cover.

Edison, Ohio.

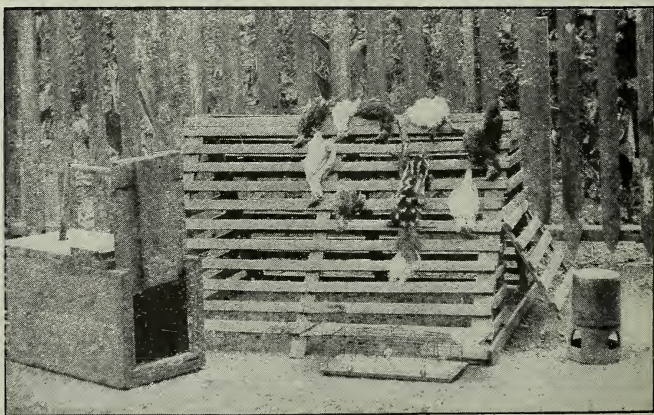
SKUNK CAUGHT AFTER HE HAD KILLED 16 CHICKENS.

BY W. A. PRYAL.

A couple of years ago some skunks began nocturnal visits to my chicken-yard. It was in the fall of 1910 (in September, I think) that I noticed that the young roosting chickens in one of the poultry-houses seemed disinclined to take to their roosts when night came on. They seemed to prefer to go into the house with the older stock or else take to the tall trees. Then, a few days later, my man George heard a commotion in the chicken-yard one night, and on investigating the cause of the disturbance he found a skunk trying to make his exit from the yard through the meshes of the wire netting. Not wishing to attack the animal, without a suitable weapon, the

man returned to his room to get his shotgun. On his return, a minute or so later, the skunk was gone. The rascal had already killed a good-sized young chicken, and would have carried it off, but he could not get it through the fence.

Every night after this, ladders were removed so that skunks could not climb to the roosts, and the younger chickens in



A skunk caught in a steel trap, and some of his victims of the night before.

coops near the house were carefully inclosed. However, one night one of the coops was not as diligently looked after as it should have been, for the door was left a little apart, and through the opening a skunk made its way. What a slaughter of innocents there was that night! There were sixteen well-grown young chickens and their mother in the enclosure that night; and of the lot, fourteen young ones were found dead in the morning. One had been caught by the maulrauder, but escaped with a small cut on the back of its head. All those killed had been bitten on the back of the head at the base of the brain.

Such slaughter roused my dander. The Irish in me was up, and I was bent on getting that skunk or "bust." And I got him! And it is with much pride and delight that I herewith present a picture of the dead skunk and some of the fine chickens he so ruthlessly murdered, together with several of the traps that were set that night to capture him. The trap that "did the work" was a small steel-jaw trap that was set in the center of the large coop in which the chickens had been killed the night previous. About a foot above the trap one of the dead chickens was suspended by a wire. I believed that the skunk would return again to kill more chickens or else claim his prey, and I gave him this opportunity to claim the one that was hung up in so tantalizing a way, and he was bent on getting it. He danced into the trap; the trigger was sprung, and the skunk firmly held by one leg until he was duly killed in the morning by George.

Since then I have lost no more young chickens, that I am aware of, by skunks, though we have set traps for them now and then. Only one has since been caught, and that was a few weeks ago when one was secured in the large box trap that was set to catch rats. And here I might remark that this trap is the best rat-catcher I ever knew; it gets the rats when all the wire and other traps fail. I suppose it is such an innocent-looking old thing that the most wary old rat is thrown off his guard, and walks into the box to nibble at the bait, which is usually a piece of old raw or decayed meat.

Oakland, Cal.

CAUGHT IN THE ACT.

A "Tame" Skunk Eats Bees.

BY J. D. YANCEY.

One day last summer, late in the afternoon, my sister being out in the apiary, called to me to come to the aid of my bees before they were all devoured. Of course I came on the double-quick, and you may imagine my surprise as I passed around the

corner of the kitchen to behold a skunk, almost as big as a badger, near the entrance of the second hive, calmly eating bees. I was so angered at his cool impudence that if I had had a club in my hands, I would have—on the spur of the moment—"lamed him one" good and proper. But on second thought I knew this would not be the best policy so near the dwelling.

While I stood watching him he finished devouring the first bee; and, running up on the alighting-board, seized another from the crowded entrance, rolled it under his front paws on the alighting-board, then backed off to a safe distance and proceeded to eat it, beginning at the head and finishing it to the tip, sting and all. The skunk seems capable of running backward with as much celerity as forward; and his movements as he runs up and grabs a bee, smashes it with his fore feet and then backs off, are made so rapidly as to seem almost automatic in action.

The bees seemed to be angered very much by his murderous assaults, but for some reason they would not attack him; in fact, in a few minutes they became so intimidated that they every one disappeared into the hive. Mr. Skunk, however, had evidently robbed bee-hives before, for he knew exactly how to proceed. Running up again to the entrance, he drummed on the floor of the hive making a noise much as you would by drumming lightly on a hive with your knuckles. This caused two or three bees to dart out of the hive, and one of them was promptly seized. In his eagerness, however, he lowered his head too near the business end of the bee and received the sting full in the end of the nose. Well, Mr. Skunk was certainly surprised, and he dropped that bee just as if it had been red-hot. He seemed to think the scraping motion was the proper scheme for removing stings, for he backed off about ten feet as fast as he could go, scraping his nose on the ground and sneezing as if he had taken a whiff from a pepper-box.

May be you think that gave him enough; but he seemed to be following the advice of those bee-keepers who tell you to scrape out the sting and forget about it at once and it will cease hurting promptly.

Being a little leary about tackling the same hive again, he next came to the hive near which I was standing and caught a couple of bees, stopping to eat them so near me that I could have kicked him—had I been so minded, of course. Once he ceased operations, and, sitting up on his hind feet, gave me an impudent stare, as much as to say, "If you don't like it, help yourself."

I suppose he did not like the flavor of the bees from this last hive, for he soon went back to scratching in the entrance of the first; but the bees appeared to be thoroughly cowed, for none of them would venture forth, and after a few more futile efforts his Skunkship took himself off into the fast-gathering darkness, and I saw him no more.

Bridgeport, Wash.

BEES AND POULTRY ON A BACK LOT IN A CITY.

BY L. J. GRIFFEN.

My experience in bee-keeping and chickens is more of a "has been" than a "present" experience; but for a number of years I took off about 400 pounds of "fancy" honey and raised about 300 fancy chickens (White Wyandottes) on a city lot one hundred feet square.

My occupation is that of customs examiner (deputy collector and inspector), and the last four years my work has increased so much that I have had to give up most of my bees and chickens, and I miss the monster that they used to bring in.

I have always been very fond of honey, and was seldom able to get any that was especially good; so about ten years ago I began to study bees. After six months I dreamed of bees every time I went to sleep; then I bought two colonies in Danzenbaker hives from a friend who was planning to leave town. They were hybrids. I sent to two different queen-breeders for a queen from each, and divided the two hybrid colonies, making four. One queen was excellent, and soon had her hive full of brood. The other was no good—could barely fill five frames, and later I killed her. The first year I secured about 140 pounds of honey, of which two-thirds was fancy.

The same year I commenced to study chickens; and before spring arrived I was dreaming of chickens. I bought an incubator and two brooders, and 220 White Wyandotte eggs (I was the pioneer White Wyandotte chicken-man in Bridgeport or vicinity).

I had excellent luck (?), and hatched 153 chickens. When they were about three weeks old they suddenly commenced to die off. I finally found that the trouble was moldy chick-feed, tiny particles of green mold being mixed with the fine grains. I threw the rest away and got some that was fresh. I seldom buy chick-feed now, for several reasons—first, it is almost impossible to buy fresh chick-feed early in the season; and old chick-feed of the previous year is very likely to cause bowel trouble; second, if scattered on the ground, all particles that become covered will turn moldy, and then when uncovered will be eaten, resulting in a dead chicken a week or two later; third, little chickens three days old will eat wheat and thrive on it.

I figured out that a mash composed of corn meal three parts, bran one part, middlings one part, and beef scrap one part, would be about right. I think so yet, after nearly ten years' trial, although when I find it hard to get good middlings I use corn meal two parts, bran two parts, and beef scrap one part, substituting one of bran for the middlings, and dropping one of corn meal.

Out of my hatch of 153 I raised 116. I saved the best for breeders, and killed the cull pullets for broilers, and the cull cockerels

were made into capons, which I learned to do by following directions in the book that came with the caponizing set.

In performing the operation at first one bled to death, which we ate as a broiler, and I cut the lung of one a trifle, and he had wind puff. On tapping him with a pen-knife he recovered. I made one change. The directions said, use carbolic acid in the water; but I used bichloride of mercury, one to one thousand—7 grains to 1 pt. of water. Those capons made my reputation for delicious chickens.

About three or four weeks before killing I would shut four in a coop with slatted front and bottom two feet high, two feet long, and eighteen inches deep. I had four of the coops in a row about the nests. There was a dropping-board below the coops so that it could be taken out and cleaned, and a shelf in front to hold the feed and water. They were fed mash entirely. When there are four in a pen, one seeing another eating, he thinks he must eat also. The second day before killing I gave some charcoal, and the last day nothing at all. My pullets that were hatched about April 20, commenced to lay about Oct. 7.

The same year I had four colonies of bees. The previous fall I had killed the poor queen, and had given them a frame of bees from my best queen from which they had raised a good queen. I fed in March and April about two dollars' worth of sugar and got about fifteen to twenty sections from each colony of apple-blossom honey with a little dandelion mixed with it. We have very few dandelions in this section.

During the summer flow my two hybrid colonies put up a solid super of chestnut honey, and my two Italian colonies a solid super of sumac honey, both flows occurring at the same time. Chestnut honey is greenish yellow, rather dark, and of poor flavor. Since then the chestnut-trees have all been cut down, for which I am thankful.

Before leaving on my vacation in September I looked at the bees and found very little honey. On my return there was a sour smell, and I immediately concluded the bees were dead, and the nectar and brood soured; so I opened the hives and was surprised to find each super crammed with honey—mixed goldenrod and wild aster. I put another super on each colony, and they also were filled with honey. One season the bees stored wild-aster honey in the super as late as November 7.

The following spring I started early with my incubator, hatching on Washington's birthday. I placed one of the brooders in the cellar, put a glass top on the two compartments, and kept the chickens in the cellar for three weeks. By that time they needed damp ground (the cellar has a cement floor). I made pens 6×12 feet across the front of the lot next door, 50×100 ft. (it was poor sandy soil on which I could make nothing grow). The top of the pens was made so that it could be rolled back for the purpose of digging the soil. First rye, then

oats, and finally wheat, were planted, as there is nothing better for young chickens than sprouted grains.

I kept the incubator going, hatching about once a month. The pullets which had hatched on Washington's birthday gave me the first egg on July 2—four months and ten days. These had been put in a sort of colony house, so that I had at one end laying pullets; and at the other, chickens only two weeks old.

After three years the ground became so rich and full of poison for chickens that I had to move the pens. I planted corn on that ground for three years in succession without any further fertilizing, and by that time I could use it for chickens again. I find that corn is the best renovator of the soil.

On clear Sundays at least 500 people used to come to see the chickens, the pens being next to the street. The fame of those white chickens spread far and wide.

I feed only whole grains, and have, at present, movable coops so that they can be rolled or carried to fresh locations, about six weeks at first, and then about every two weeks after that. I always expect my pullets to lay at the end of five and a half months. I attribute the early laying to the large amount of beef scrap that I feed.

In 1903 I hatched a pullet that I leg-banded as number 8 (I started leg-banding that year). She proved to be a wonder, laying 264 eggs in one year. In 1907 I had her in a pen with four of her daughters, and the five laid 88 eggs in 20 days.

My third year with the bees was even better than before. They had increased to six colonies, and gave me about four hundred and fifty pounds of honey, most of which was fancy. All No. 2 honey is cut out and given to the neighbors. I have had complaints but once, and that was because a neighbor was sore about another matter.

In the fall of 1904 I discovered that my best hive was rotten with foul brood. I found that bee-keeping in the suburbs of Bridgeport and for a distance of ten miles each way was steadily decreasing because of foul brood. I then started the agitation which finally resulted in our present foul-brood law, which, while better than nothing, is far from ideal.

Bridgeport, Ct.

POULTRY AND BEES.

They Go well Together if the Man "Stays by the Job."

BY H. E. ZECH.

As a breeder of Silver Comb White Leghorn hens and Indian Runner ducks, and as a bee-keeper and farmer, I wish to give my experience, with some statistics, regarding poultry and bees, for the benefit of the GLEANINGS family.

I started bee-keeping in the spring of 1906 by buying four colonies in movable-frame hives of no standard make, and the

same season I got about 150 lbs. of fine white honey, some in sections, some chunk. This looked good, so I increased by buying ten-frame Langstroth hives and Italian queens, and now have 17 colonies and about \$125 worth of hives and fixtures, and \$21.44 to the credit of the bees, not taking into account the honey used and given away.

During 1911 we kept from 150 to 225 hens, which returned to us \$635.63. No eggs were sold for more than 40 cts. a dozen, no account was taken of eggs and poultry used, and I have no exact account of all the feed consumed; but the mash, beef scrap, shell, grit, and charcoal, fed to both young and old stock, amounted to \$99.79. I use simple home-made self-feed hoppers arranged with a 2½-inch-wide second or trough to catch that which crumbles from the hens' mouths, and which would otherwise be lost. By arranging the troughs right as to height, a nice slanting cover can be hinged to the front of the feeder to keep rats out at night, or to shut the hens away from the mash a part of the day at certain seasons. By keeping the mash accessible to the stock, practically no damage is done to the growing crops close by the buildings. I should judge that the mash, etc., cover at least two-fifths of the feeding expense. For raising chickens, I use Prairie State and Cypher's adaptable hovers attached to 7 x 10 portable houses, which are used in winter for laying hens. Records of three flocks show that I raised 94 per cent, cockerels crowing when 29 days old, and pullets laying when 4 months and 13 days old.

I breed the English (or penciled) variety of the Indian Runner duck, of which I raised 97 per cent. They hatched June 6; and up to date, Jan. 18, they have given me 234 white-shelled eggs. Notice I said *shell-ed*, as some duck eggs sometimes have a dull, dirty gloss which, when immersed in water, may be slippery or mucus-like, and which must be washed off in order to have the really beautiful white egg. See what A. I. Root says on p. 447, July 15. I do not expect that they will continue to lay, as we have been having very cold weather for three weeks. Before that, the weather was good for fall laying.

As to poultry-raising and bee-keeping going together, I will say that, so far as the most important factor, the man, is concerned, they agree well, for both pursuits require patience, persistence, and some enthusiasm. On nothing does success depend more than on the man who is among the bees and hens, and who cares for them. It is important that a beginner start in a small way with good stock, and increase as he can profitably handle more, all the time realizing that it is the *man* which is on trial, and not the bee nor poultry business, as both have been tried. And do not take up another branch if you have enough already. Do not go into any business deeper than it will allow you time enough to do some good sound common-sense thinking; for a lack of this is the cause of most failure, and will

lead one into the habit of laying it to poor luck when things go wrong, while in reality there is no such thing—only your failure to attend to some essential.

Seven Valleys, Pa.

A BEE-KEEPER'S REMINISCENCE.

BY WM. BEUCUS.

Years ago, when I first began my apicultural career and knew all about bees, I said one morning to my wife, "My dear, we're going to stay home this forenoon. The bees won't swarm to-day."

I began to busy myself by turning my attention to the lawn, humming at times little ditties, and breaking out vigorously at times in a deep bass voice which one of our friends heartlessly said sounded like a saw-mill in distress. In the midst of one of these outbreaks of feeling I was brought back to the reality of every-day life by the exclamation, "The bees are swarming!"

Upon reaching the bee-yard I found a swarm circling around without the slightest regard for any one's feelings. The bees finally met in convention on a huge limb high up in an immense oak. My heart sank within me; but hope returned, and I got the ladder. I made up my mind to sweep the senate, secure a majority in the house, shear the committee on rules of its power, and to make some innovations that would teach those bees where they were going to get off. I tied one end of a rope to my ankle and the other end to a basket, and mounted the ladder, scaling the trunk above the ladder like a monkey.

The campaign was nicely planned, and every thing should have terminated well, but "the best-laid plans of mice and men gang aft agley," as has been said by the poet.

I reached the bees safely, and found that they were full-blooded hybrids. Two or three bees faced about and stared in an unmannerly way that is always disconcerting to a sensitive nature; but I proceeded to pull up the basket in a calm and nonchalant way, as if the danger were a pastime, while my wife looked on proudly from below. I then proceeded to scrape off the bees with unerring hand. It was then that those hybrids made an exhibition of themselves that was entirely out of place. One, with foul intent, harpooned me on the hand; another went up my sleeve; but when they advanced in solid phalanx and made a flank movement, pouring in a volley of poisoned arrows through my thin denim trousers, I became disgusted and made up my mind that I wouldn't have bees that acted in that disgraceful way. I began to retire then.

"Don't come too fast," said my wife. I assured her that I couldn't. I was taking full advantage of gravity, although it was not intentional. Fortunately the rope, which was attached to my ankle, was fastened to a limb of the tree, and thus was prevented the disfiguring of the lawn. After a long interval (at least so it seemed to me),

my wife, who had gone after a knife, relieved me of the monotony of swinging, suspended by one leg, like a pendulum, fighting valiantly, and with perfect presence of mind, the bees which had taken advantage of the absence of a bee-veil, and were, without feeling, burrowing in my hair and clinging tenaciously to my face and neck. Even after I had gone into the house, had cared for the stings, and had fallen asleep, my slumber was disturbed by the eternal buzz, buzz, buzz of swarming bees.

Cadott, Wis.

FLIES AND MAGGOTS FOR POULTRY.

BY THOMAS DEWEES.

As an interested reader of GLEANINGS I can not refrain from having a part in the discussion concerning the use of stale meat, maggots, and the like as a food for poultry. That chickens may be used as scavengers is altogether correct; as, when supplied with such or allowed access thereto, they will eat all sorts of filth and corruption. But if we are going to use them for this purpose let us, for the time being at least, discard them as a food for our own bodies. That the quality and quantity of the blood is dependent on the amount and character of the food, is a fact well understood; also that it is from this life-giving current that every fiber and tissue of the animal body derives its strength and is built up.

Understanding this, I have about the same use for eggs and flesh of fowls laden with such loathsome germs as those must be that have been subsisting on putrid flesh and worms that are a product of the same, or, in fact, any decomposing or fermenting substance.

Now for an intelligent solution of this problem, I want to invite readers of GLEANINGS to make the following test: Take from your flocks a thrifty fowl and place it in clean comfortable quarters, and supply it with clean and suitable food, with fresh pure water, for a period of from eight to ten days; then kill and prepare it for the table; then in like manner prepare one that has been allowed to run at large, or perhaps fed as indicated. Note the difference in flavor, and decide for yourselves. Also the same difference may be observed in the eggs from hens receiving nothing but clean pure feed.

Now as to the destruction of flies, if I am not mistaken the fly that deposits its eggs on the flesh and decaying animal matter is a particular kind of green fly, often called the blow-fly; and while it is sometimes an annoyance it is one of the provisions of an allwise Creator for the quick disposal of these decomposing and offensive bodies that poison and pollute the air we breathe. If I am right, the more common fly that frequents our houses deposits its eggs elsewhere, very largely in manure-heaps, and kindred places where there may be a little extra warmth.

Barnesville, O.

Heads of Grain from Different Fields

A Form for Holding a Shallow Frame when Putting in Foundation.

I have made and used for the last few years a contrivance to assist me in putting the foundation in shallow extracting-frames.

To make one, take a piece of board 1 x 4 x 19 in. for a base. Nail firmly to it, in the center, a board

tins a spare top-bar should be used to fill up the tin to get the tin nailed just right. The tins may be bent at a greater or less angle to accommodate the frame-tops scant or full thickness.

I use these frames hung in the hives with $\frac{3}{8}$ x $\frac{3}{4}$ rabbets, just as brood-frames are used. The top-bars can be put on or taken off very quickly when once the knack is learned.

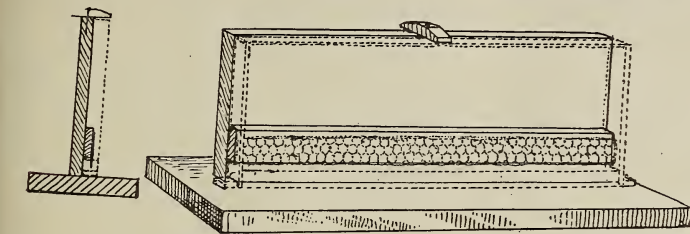
Three tins nailed on one side of the top-bar of an ordinary brood-frame hold the nucleus-frames very nicely; but as these top-bars are thicker, different-sized tins are required. They must project $\frac{1}{8}$ inch below.

It seems to me the above arrangement is the best also for reversible frames. They could be used in ordinary hives, reversed with little trouble, and used anywhere. Four to each frame, $\frac{3}{8}$ or 1 inch

wide, would, perhaps, be about right—Fig. 6.

Port Orange, Fla., Jan. 9.

J. B. CASE.



1 x $5\frac{1}{2}$ inches, and 16 $\frac{1}{2}$ long. This should not be as wide as the frame by about $\frac{1}{8}$ inch. Half an inch from the base nail a $\frac{3}{8}$ -in. piece 2 in. wide, 16 $\frac{1}{2}$ long, for a guide. The frame will then just slide under it. Next make a button an inch wide and 2 long, just as you would to fasten a door, and screw it on top of the upright in the center, as shown in the illustration.

To use the device, slide the frame under the guide against the upright, and turn the button so that it will be held firmly. The foundation will drop naturally into the groove, straight and true. It will not warp, nor lean to one side. Fasten it with hot wax in the ordinary way.

Morgan, Texas.

T. J. FORD.

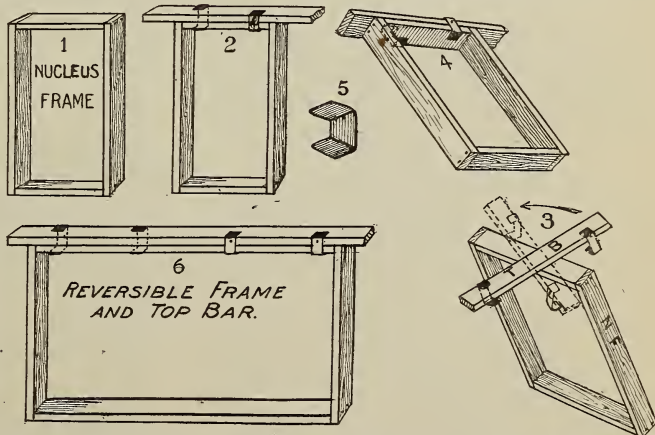
[For full sheets we can see that this form would be quite a convenience. The illustration shows only a starter.—ED.]

Cold Weather for California.

Owing to the early frosts which killed all the late bloom, my bees did not go into the winter in very good order. I had to double up some and to feed others to pull them through. We of the northern part of the State have had very little rain, but a great deal of cold weather for this country. It was down to 14 above zero—the coldest for a great many years. Jan. 1 we had a five-inch snow followed by warm rains with the thermometer ranging from 34 to 70. The bees are now (Jan. 15) bringing in pollen from alder, which will start brood-rearing that will be of great value in building up for the main harvest, which will come here in April and May.

E. S. BARTELL.

Cottonwood, Cal.



Case's Nucleus-frame and Top-bar.

Fig. 1 shows my nucleus-frame, 5 $\frac{1}{2}$ x 8 inches, made of $\frac{3}{8}$ x $\frac{5}{8}$ stuff. Fig. 2 shows a top-bar 7 inches long, of $\frac{3}{8}$ x $\frac{5}{8}$ stuff, and manner of adjusting the same. After the top-bar is in position I turn it to the right. Fig. 3, until it is parallel with the top of the frame, and the tins hold it firmly. Fig. 4.

The holder is made of very heavy tin, $\frac{5}{8}$ wide. The ends are bent $\frac{3}{8}$ inch from the ends, and are $\frac{3}{8}$ inch apart—just right to hold two $\frac{3}{8}$ pieces tight together. The tins are nailed on the edge of the top-bar, $1\frac{1}{2}$ in. from each end. The end of the tin on top of the top-bar is bent at right angles—the bottom end not quite so much, but so it slips under the top of the frame easily. The end that rests on top of the top-bar holds the tin firmly. When nailing on the

try who tried to lengthen out the tongue-reach of the bees; but we found that we had to depend almost entirely on "sports." We had one queen whose bees gave a tongue-reach of .23 of an inch, while the average of black bees runs only .16 to .17 of an inch.

Later, efforts were made to construct a cage 30 ft. high and 30 ft. square in which the drones and the queens might meet in the air; but this did not

prove to be any great success. So we are practically right back where we were years ago. If you can work out any scheme we shall be glad to hear from you further.—ED.]

Profit from Forty Chickens.

My bees will have to hustle to beat my hens. Last January I had 56 hens; last June 35, with an average for the first six months of about 45. I now have 32, making an average for the year of about 40 birds. The last of November I was \$71.76 ahead of expenses, and had raised 23 pullets, which have laid 149 eggs this month. This is not taking into consideration the value of these pullets, although the cost of raising them has been charged to the hens.

Eggs from hens from Jan. 1 to date, Dec. 25, \$62.18; eggs from hens and pullets, \$63.80. Considering the value of pullets and what eggs I get this month, the profit from forty birds will be about \$100. The only care required is at night and in the morning, before and after 6, with the exception of watering them during the day, which my wife does, and only lately have I fed them more than once each day.

Brewer, Me., Dec. 25.

E. H. BISSELL.

Winter Treatment of Foul Brood.

I sent a sample of brood from one of my neighbors to Dr. E. F. Phillips, and found it to be affected with American foul brood. I do not know whether it would be best merely to clean our hives up and let them go, or to send for an inspector and get rid of the box hives entirely. In the first place, we do not know where the trouble came from, as there have been no bees sent in nor queens bought or sold. I have about 15 colonies, and my neighbor has one. They are all together in my cellar. Will the disease spread in the cellar?

Vassar, Mich., Jan. 8.

J. W. ROWLAND.

[There is not much you can do in the way of handling foul brood during midwinter except to scald out or burn out hives that are empty, and melt up all combs of which you have any doubt. If the disease during the past summer got any kind of hold upon your bees or those of your neighbor, we would advise you to melt up all the empty combs you have, as a matter of precaution, boil the frames, put in foundation, and start over again next season. While some authorities think it is not necessary to scald out or burn out the inside of the hives, we believe it is very much safer to do so. This is a recommendation of Dr. E. F. Phillips, of the Bureau of Entomology, Washington, and many of the inspectors of the country.]

Foul brood will not spread in the cellar nor during cold weather, as it is only when brood-rearing is going on that it can do so. You probably will not have any trouble again until next spring when the weather warms up and the queen begins to lay.

We are not certain; but it is our opinion that the foul-brood law of Michigan requires the transferring of all colonies in box hives. It would be well for you to call for the inspector, and we therefore advise you to write to R. L. Taylor, Lapeer, Mich.—ED.]

Chickens Eating Bees.

Regarding Mr. Scholl's article, "When Chickens are a Nuisance," p. 486, Aug. 15, when a chicken begins to eat bees, nothing will ever break it off. It does not care for any other food, and rapidly loses flesh. Old fowls rapidly follow the example after seeing the chickens eating bees; but they rarely start of their own accord. I have seen a chicken completely covered with bees trying to sting it as it was catching its meal right on the alighting-board. It just stood back, picked them all off, and started on some more. Tiny chickens never start on bees; but big chickens, fit to eat, do. Such chickens can never be caught by the usual means. Grain is no temptation to them. We either shoot them or catch them somehow, and give them to some of our neighbors who do not keep bees. To remedy this nuisance we have raised our hives about 18 inches from the ground. Since then we have had very few cases. I should not like to be without fowls in the bee-yard. They seem to keep ants and other insects down. Turkeys and ducks never eat bees; and if a small turkey swallows a bee by mistake it invariably dies in great agony, turning and twisting its neck as if all the pain were there.

STEPHEN ANTHONY.

Waitete, Amodeo Bay, Auckland, N. Z., Sept. 25.

Don't Put All Your Eggs in One Basket.

I believe there is nothing that fits in better with bee-keeping than poultry. Poultry can be attended to early in the morning and again in the evening, while bees should not be disturbed before 9 A.M., and not much later than 4 P.M.

Another argument in favor of the combination is that both bee-keeping and poultry-raising can be carried on in a small area. Besides, a man who makes a success of bee-keeping should do well at poultry-keeping, for both occupations require close attention to details. Then, too, where there is a city market near, the product of both the bee and the hen can be sold at the same time.

I don't like to disagree with such eminent men as G. M. Doolittle, the late E. W. Alexander, and W. Z. Hutchinson; but regarding the slogan, "Keep more bees," I must plead *locality*, and fall back on the old adage, "Don't put all your eggs in one basket." In fact, I have known them to fit in so well together that a deserted hen egg hatched into a fine healthy chicken over a strong colony of bees. However, I didn't give it to the bees to mother.

BLACK CHICKS STUNG WHILE WHITE ONES ARE UNHURT.

Just here let me give warning not to allow the poultry to run among the hives, as I lost a fine flock of chickens last spring, which were stung to death by the bees. One sting is fatal to a young chicken. I lost 30 out of one hatch, and, strange to say, the black ones were attacked while the white chicks were unmolested. Bees certainly draw the color line, so bee-keepers will find it to their advantage to keep white hens.

Slate River, Ont., Jan. 14. JAMES M. MUNRO.

[There has been quite a stir in the newspapers, several times, over the possibility of hatching chickens on a large scale in supers over colonies of bees; but except in hot summer weather we believe the plan is not successful. And even then, incubators are cheaper and better.—ED.]

The Trickey Method of Treating Foul Brood.

In treatment of foul brood, p. 710, 1911, 1, what is done with combs first removed?

2. At what time of day should this be done?

3. Would the result be the same if the old hive were moved in the middle of the day, then brushed at night, the new hive being first supplied with a small piece of unsealed or sealed brood?

Bradshaw, Neb., Jan. 8.

C. B. PALMER.

1. They should be extracted if they contain honey, and melted up. Frames should be boiled before being put back in the hive with foundation.

2. Usually in the middle of the day when bees are flying the thickest. This will avoid any disturbance, for the bees in the field will return to the new hive.

3. Not quite; because in so short a time the bees would hardly have gotten over their first disturbance.—ED.]

One-fourth of the Potatoes in Northern Michigan Frozen.

It is pretty cold here now. I believe that one-fourth, if not more, of the potatoes through Northern Michigan have been frozen during the past two weeks.

Our bees are wintering finely, however, for I can keep the temperature right during a cold winter better than I can during a warm one or one where the weather is changing all the time. The bees are so quiet that I can hold a candle almost close enough to burn them, and not even a buzz comes from them.

Pioneer, Mich., Jan. 20. ELMER HUTCHINSON.

[That certainly indicates that all conditions are normal, and that the bees should come out strong.—ED.]

Brood in Caucasian Colony in January.

Last September I introduced a Caucasian queen to a small colony. I gave them three frames of honey, and left them for the winter. We had very little rain here last year, and it has been warm and cold in succession. Yesterday, Jan. 14, the temperature was 72°. On looking into the Caucasian hive I found a patch of brood and eggs the size of my hand on both sides of a frame. I was unable to find a sign of an egg nor of any brood in my Italian colonies.

Highland, Cal.

J. R. LAFOLLETTE.

Our Homes

A. I. Root.

Therefore the ungodly shall not stand in the judgment, nor sinners in the congregation of the righteous. For the Lord knoweth the way of the righteous; but the way of the ungodly shall perish.—PSALM 1:5, 6.

With all my busy cares (at least they seem to me of enough importance to call them "cares") I try to read the dailies enough to keep pace with at least something of what is going on in the world; and I confess that many things are coming to pass that make me feel the need of some such comforting promise as the one at the head of this talk to-day. What troubles me most is that God evidently expects his chosen followers to help bring about the time when the sinner shall not stand in the congregation of the righteous. Letting criminals go scot free, or letting them off with a punishment not one-tenth of what they deserve, is what worries me most; and as an illustration of the tendency of the times let me quote from the *Chicago Advance* of Dec. 28:

A WIDOW'S CRY.

"My God! Why is there law, any way? There is no use of expecting anything from the law. The guilty ones are allowed to escape."

This was the heart-broken cry of the young widow of a man murdered by an infamous gang of Chicago toughs when she heard that their execution had been postponed and might not occur at all.

The police are quoted as saying that the crime was one of the most brutal and atrocious ever committed in the city or county. The young man was a gardener, and it was necessary for him to come to the city in the early hours of the morning. It was a time when half a dozen young robbers were looking for a victim. They met him in the road with clubs and guns. He begged them to take his goods but to spare his life for the sake of his young wife and that of his baby, two months old, who needed his support and protection. The only answer was a more fiendish assault. They struck him on the head with a fence-rail, and it is reported that they even knocked out his teeth and drove a stick down his throat. Then they left him dying in a ditch and scamped away to make war on other industrious people who happened to have something which they wanted.

Fortunately their identity was discovered and they were captured. One or two of them confessed, and four of the gang were sentenced to be hanged December 22. But in spite of the fact that they so richly deserved it, and that the prevalence of high-handed and bloody crime called for a prompt and effective enforcement of law which would produce more respect for it among the lawless, and more confidence in it among the law-abiding, a movement was made upon the governor of the State to prevent the execution, and it succeeded!

If this movement had been made only by the paid attorneys in the case and the relatives of the murderers it could be passed over; but it had the backing of such influential people as Dr. Hirsch, Miss Jane Addams, Jenkin Lloyd Jones, Professor Charles R. Henderson, and others. Some of these intererers with the mandate of the court seemed to have a rather bazy reason for their meddling, except that they did not want a hanging. As Roosevelt once said in a Chicago address, some people do not feel the pain of the murderer's victim, but do feel intensely the pain which the murderer ought to suffer for his crime. Perhaps this explains in part the action of some of these individuals for blocking the enforcement of law.

But others of the intererers were more explicit, Professor Henderson's reasons, as given by the daily press, include the declaration that "capital punishment is not necessary for any rational, social end." But the great commonwealth of Illinois declares on its statute-books that it is necessary; and it is the part of wisdom to pay more attention to the law than to a professor's theories.

The professor also says that capital punishment tends to increase rather than diminish crime. But the statistics for the crime of murder show that there has been a frightful increase of murder in this country since the decrease in hangings set in. From the year 1887 to 1908, as shown by the statistics of the *Chicago Tribune*, which have commanded wide attention, the murders in this country increased from 1266 to 9000. One year there were more than 10,000. In fifteen years the total number was 133,192, while during the whole four years of our Civil War the number on the Union side who were killed in battle was only 101,000. That is to say, fifteen years of murder in this country cost more lives than the battles to save the Union cost. We are fighting tuberculosis and a lot of other germs; but the worst germ in this country is the murder germ. Once we cured it with the rope: now we are treating it with sugar-coated sentimentality, to university theories, and social-settlement softness. During the last two years there have been 653 homicides in Cook County—Chicago's county—and not a single hanging; and of these homicides more than 300 were "cold-blooded murders." (This information was received direct from the sheriff's office.) In five years there have been no executions in Chicago, the last having occurred December 13, 1906. In Louisville, Ky., a State where the public had the impression that murderers are hanged, there were 47 murders during the year which ended August 1 last, and not a single legal execution.

Last year the total number of homicides in the country was 8975—an increase of nearly 800 as compared with the previous year, and yet there was a decrease of executions. Only 104 persons were put to death by law. In a word, while murder has been increasing so frightfully as to be but little less destructive than war, hanging is nearly played out. In Chicago, where the execution of these brutal murderers was prevented by alleged philanthropists, murder is a continual occurrence, and executions need no longer be feared by the infamous scoundrels who knock early risers on the head or shoot down women in cold blood because the women get excited when a revolver is thrust in their faces and they are ordered to hold up their hands. "The most significant feature of last year's figures for murder," says the *Chicago Tribune's* report, "is the increase of murders committed by thugs, thieves, burglars, and hold-up men." It is this kind of murder which the intererers with law have now made more safe in Chicago. The man who wrote the magazine article entitled "Encouraging Murder" could find great encouragement for another article in this recent performance.

Dr. Andrew White, in his notable discussion of the subject, said, "The murder rate is from ten to twenty times greater in the United States than in Great Britain and other northwestern European countries. In London, with its great population, during the year 1909 there were only 19 cases of murder. Of the murderers, five committed suicide (executed themselves), four were executed, and four were found insane. Compare these figures with Chicago's 300 'cold-blooded murders,' and not an execution! And yet Professor Henderson is quoted as arguing that England has reduced crimes of violence by a reduction of capital punishment. The real fact is that England hangs murderers, and as a result she does not have many to hang.

Many of the readers of GLEANINGS are interested more or less in market-gardening, and know what it is to get up early and sit up late to raise stuff, fighting frost and flood and drouth. Now just think or having the crop grown, and on the way to market, and then being beset by a crowd of toughs from saloons, and being murdered in cold blood, as mentioned above. Although the *Advance* did not touch on the matter I think they will agree with me that this crowd was the direct outcome and output of the saloon business. What does Christianity mean, and what does the expression "the land of

the free and the home of the brave" mean if this thing is allowed to go on?

Once more, the McNamara brothers have finally been obliged to confess, and may God be praised for so much; but what would have happened if they had not confessed? When first arrested the elder one said openly he would get free, and gave as a reason that a predecessor in the same line got off because his friends raised \$50,000 to get him off, but that *he* (McNamara) was so much higher up (higher up in what?) his friends would readily raise \$200,000, and they did raise *almost* that amount.

Now, dear friends, please do not rush to the conclusion that I am opposed to organized labor, for in truth I am glad to see people stand together to resist injustice and oppression; but what I vehemently object to is defiance of law, or taking the law into their own hands when it seems slow and ineffective. It is the disregard of law that threatens the ruin of our country.

Just recently the Baptist brotherhood of Cleveland, O., have been trying to have the mayor and chief of the police enforce the law against open saloons on Sunday. These officials, while admitting the law was plain and clear, refused to enforce it, for no other reason, so far as I could gather, than that "the people do not want the law enforced."

At Newark, O., about a year ago, the saloon-keepers did not want the law enforced, and put to death an officer of the law who was trying to enforce it. Just recently the county has voted wet, giving as an excuse that the law could not, or, rather, perhaps *would* not, be enforced if they continued to vote it dry.* How could they expect any temperance law to be enforced when they continued to put into office men who are not in sympathy with either temperance or Christianity? May the Lord be praised for the good and brave men who are here and there getting into office and exposing the graft and bribery and fraud that seem to be turning up almost everywhere. Well, after much pains and time and trouble we do succeed in getting the guilty ones "red handed," for God's sake and for the sake of the honest, faithful, hard workers, let us put aside our foolish scruples and weaknesses, and enforce the law to its *very* letter, until the law really is a "terror to evil doers."

*I clip the following from the Cleveland *Plain Dealer*: "Newark business men are dissatisfied with conditions in this city under the Rose law, and are predicting almost a solid front to change the speakeasy, blind tiger, and kitchen-bar into the regulated saloon." Will some one point out to us where there is, ever was, or ever will be a "regulated saloon"?

POULTRY DEPARTMENT

A. I. Root

ANOTHER "GREAT DISCOVERY" FOR THE BENEFIT OF POUSTRYDOM.

I am sure our good friend of the *Reliable* will be pleased and entertained by what I have to tell you, even if no one else will. Just listen to what I have run on to.

It is no new thing to have a hen that lays eggs while she cares for a brood of chickens (say three or four weeks old), for, in fact, my strain of White Leghorns was built up from such a mother, as you may remember; but I propose to have a strain of fowls that will go away ahead of this. You will bear in mind that I am trying to get a duck from every one of the three eggs I get daily from my three ducks. Well, my Cyphers incubator holds only about 50 eggs; and as the incubator is needed about 30 days for each hatch, the duck eggs, to use them all, needs a sitting hen (to help out) about every week; therefore I have been waiting anxiously for a sitting hen among my Leghorns, Buttercups, and crosses of the above two breeds. About three weeks ago I found a half-blood hen on the nest while gathering the eggs, and she was still on at dusk. When I gently touched her she showed such determined fight I was almost scared out. She acted as if she were really going to eat me up, in little bits at a time. Now don't forget this, for it is a most important "link" in my "great discovery." I carried her to an empty brooder-house and gave her the orthodox thirteen duck eggs. She stuck to her job

very well, and when the usual seven days were "accomplished" I had another fight with her to permit me to test the eggs. It seems I had never been able to catch her taking refreshment, because she was so exceedingly wary. Now listen, for we are coming to the climax. Instead of thirteen eggs I found *sixteen*. Bear in mind, no other fowl was in the closed building, and, besides, the three extra eggs were of a brownish tint, entirely unlike the duck eggs. (By the way, isn't it funny that, while both breeds lay a white egg, a cross between the two should lay a brown one?) Well, on testing the eggs one of the brown ones showed it was laid at least five days before the testing (a chicken is now breaking its way out of that egg while I write*); the other two had made so little progress we used them for the table. Do you see the point? This hen had really laid three good eggs after she had commenced to sit, and after she had commenced, also, *in real good earnest*, as I happen to know, and there is hardly a question but that a strain of fowls may be developed that will lay eggs, more or less, while they are spending their time sitting

*After finishing the above I went down and took a look at the incubator, and found a big strong chicken clear out of the shell, and down in the nursery. I first found the egg pipped at daylight this morning; and before noon the chick was out in good shape. This is the way it works when the hen gives the egg its start and the incubator does the finishing up.

—say lay enough eggs to pay for the feed they require. Let me digress a little.

Some time ago I thought I had discovered a way of getting more pullets and fewer males by crossing the Leghorns and Buttercups. If the mothers were all white, the most of the chicks would take after their white mothers, because the Leghorns are a much older and better-fixed type than the new Buttercups. Well, I still think there is something in it, and now I have about 40 pullets of this cross, and these forty are just now giving me twice as many eggs as the remaining forty. Now, in this flock of forty there are almost all colors imaginable. There are at least a full dozen hens as black as any Minorca, and there are (*in looks*) blue Andalusians, Brown Leghorns, and, in fact, fair types of a dozen different breeds. It is one of these crosses that lays eggs while she is sitting; and if some of you experts would take the pains to develop this trait that you do in "breeding to a feather," for instance, you would be doing more real good for coming generations. My theory is that crossing an old and established breed in this way not only tends to throw out a multitude of sports in color, but fowls that have queer and eccentric ways and habits, as I have outlined above.

"NEW DISCOVERIES," ETC.

We are pleased to note that at least one poultry journal is taking note of our poultry department. See the following, which we clip from the (great big) *Reliable Poultry Journal* for January. It really is a beautiful large monthly, and contains a vast deal of information.

We are kept busy these days reading about the wonderful new "discoveries" in poultrydom. A writer in *GLEANINGS* has "discovered" that all hens lay "two eggs and skip a day, two more and skip another day, laying the eggs 30 minutes later each day." Another writer has "discovered" the best and cheapest food for laying hens. He secures from his local butcher the "lungs and lights of fat animals, which are placed in an out-building and there left undisturbed for a few days. Flies of many kinds are attracted, and deposit their eggs. When hatched the worms proceed to devour the meat, and to get fat. When thoroughly ripe I mix the mass with bran, which removes much of its offensive nature, and allows it to be handled easily." These "discoveries" are given and favorably commented upon by earnest men! And it was found in a publication which takes pride in its claim as a truthful and highly decent journal.

Our readers will notice the above are not strict quotations, neither did the editor say my "discoveries" are usually given in a vein of pleasantry; but we can forgive it, even with his implied sarcasm, for he probably felt a little sore over my criticism in regard to advertising in the reading-pages—see p. 673, Nov. 1.

In regard to the larvæ of house-flies and other insects as food for poultry, there has been some discussion. As this is the principal incentive to chickens scratching over manure-piles and around stables, I can hardly think rearing larvæ to supply the meat ration objectionable. Miner's domestic poultry-book, published 60 years ago, described and urged it very strongly. And

now I am sure I shall please the "Reliable" man still more by giving the world another "great discovery."

HOW TO MAKE INDIAN RUNNER DUCKS LAY LARGE EGGS EVERY DAY IN THE YEAR.

It is very simple and easy. Give them a big panful of corn at night, and let them help themselves to it all night long and until they have all laid an egg in the morning. Ours usually have their eggs all laid by daylight, and then they are let out into the canal, where they forage until they come home at night for their pan of corn once more. This is a remedy, too, for small and medium-sized eggs. "He that soweth sparingly shall reap sparingly" applies to getting ducks' eggs as well as to almost every thing else. If your ducks are laying small eggs a part of the time it is just because you are not giving them the needed good strong food to get up a nice "corn-fed" egg every day. The new ducks are really capable of doing wonderful work in the line of egg-laying, but to perform these great feats they must have good material in great plenty. The reason why I lay so much stress on corn is that ours seem to prefer it to any thing else. Of course, they get an abundant supply of green stuff and animal food along the canal, where they spend the greater part of the time during daylight. The following, in regard to these ducks, I clip from the *Jacksonville Times Union*:

Keep a large low dish of shell, grit, and charcoal (one of each) before them all the time. You will be surprised at the amount they will eat. Grain is not a good feed for ducks as a steady diet, but we give ours some whole corn or wheat once in a while, and they seem to enjoy it for a change. Whether it is necessary or not, we are undecided. If any thing, we would consider it unnecessary; but it makes a quick way to feed, and we generally give it to them on Sunday nights, as that is our lazy day.

There is a certain prejudice among some people against duck eggs, probably because some ducks are fed on foul food; but I can assure you that, if the ducks are fed as I advise, the eggs will be as sweet and wholesome as hen eggs. This is especially true of Indian Runner eggs. Their eggs should be perfectly white, and ducks laying green-tinted eggs should not be used as breeders. We do not have any trouble on this score now, as ours all lay white eggs. One of our local breeders finding that the grocer who was buying his eggs did not want duck eggs started selling to another grocer, and put all of his small duck eggs right in the crate with his chicken eggs, and no one was the wiser. He only took the pains not to put in any eggs that were large enough to arouse suspicion, which only proves that, if people only knew, they would demand duck eggs in preference to hen fruit. It is a perfectly harmless fraud, and one that benefits the buyer.

As the muddy season is coming on, and we all know that ducks are apt to lay their eggs around anywhere, we are trying with fair success to teach ours to lay in nests. Try it for yourself; and even if only half of them lay in the nests it makes just that many less eggs to wash.

UNEEDA BISCUIT AND THE CHICKEN BUSINESS.

Now, you need not jump to the conclusion that I am going to advise these crackers as a cheap chicken feed—nothing of the kind, although I think they might be just the thing, and perhaps just the *best* thing crumbled in milk, say, for "day-old chicks," and perhaps for the first week; but what I have

in mind is this: We have always carried our eggs to market in egg-boxes holding a dozen each, and costing about half a cent each box (in 1000 lots), and, finally, our grocer sent for a lot and furnished them free to his regular customers. Well, he got out a few days ago, and I tried for a while carrying my eggs in a basket in the good old-fashioned way; but I don't like it. I object to having my "eggs all in one basket" (may be you have heard wise advice along this line before). Well, I object to the repeated counting it necessitates, to say nothing of a possibility of broken eggs, etc. Well, just at this crisis Mrs. Root brought me a pasteboard box she had just emptied, and said, "Here! why won't this hold a dozen eggs?" It held them exactly. As they come apart pretty easily you will need to drive the smallest size of tinny tacks through the pasteboard at each end, and clinch the tack down by holding the box on the back of an ax or hatchet. By the way, I have always been pleased to see the full-page advertisement in our journal. These crackers have been a real boon to humanity—always the same thing, for sale everywhere; and any hungry mortal who can scrape up a nickel can always have a most wholesome and appetizing lunch on a minute's notice. Mrs. Root and I always prefer them to any thing else to go with the nice fresh Florida oysters that are in the market here every day in the year.

Special Notices

By A. I. Root

SEEDS, PLANTS, ETC., FOR FLORIDA.

Conditions, climate, etc., are so different down here from the North, that it is often advisable to submit your wants to seedsmen who live here and know what is wanted and what is best. Crenshaw Bros. Seed Co., of Tampa, Fla. issue a very neat and pretty catalog of seeds, poultry supplies, etc., gotten up specially for this region, which contains suggestions and advice to any one thinking of coming here.

THAT "ADDRESSED POSTAL CARD."

If you want a prompt answer from me, you must enclose an *addressed* postal card. One good brother sends just a plain postal, and his name at the end of his letter was such a scrawl I just had to give it up. I might paste it on the card, but I have no time for such fussing. It isn't the *one-cent card* I want—bless you, no; it is that I want you to do the work of addressing. I don't want *addressed envelopes* either. I lose them or get the wrong letter into them, and a postal holds all I have time to say to each one of you. There is all the time before me a lot of unanswered letters, many of which, I think, I ought to answer, but I simply can not, and there is about a "wheelbarrowful" of papers, magazines, books, etc., that I am trying to get time to glance over. I appreciate your many kind words, and may God bless you all; but I really can not stand being kept indoors so much.

Your old friend,

A. I. Root.

THE CORNING EGG-FARM BOOK, BY CORNING HIMSELF.

The above is the title of a large beautiful book; and that is not all, for it must, in my opinion, prove a most valuable addition to the poultry literature of the world. As I have recently visited and written up briefly the Corning establishment, and frequently referred to it, it will not be necessary to go over

it again here only to say it is, perhaps, almost the first really successful attempt to keep as many as 1500 laying hens all in one building, and, we might almost say, in one room. The book contains over 200 pages of beautiful print on the very best of paper, and the engravings of every thing described are masterpieces of art. I wonder if the authors of some of the dollar poultry-books sent out with paper covers and poor print, on *poor paper*, will not feel ashamed when they come to see *this* dollar book. Every thing is pictured that they use in the way of implements and building, and there are even long folded *maps* of their colony houses, and in the back part are diagrams of all the buildings on their premises. I am glad to note that they have tested, extensively, mustard for laying hens, and it not only seems to benefit the health of the fowls, but the eggs have even better fertility where a reasonable amount of ground mustard is incorporated with their food. They use what is called mustard bran, a by-product from the mustard factories, costing only about one-fourth of the regular product. Red pepper tried side by side with the mustard gave no such result. It did not increase the laying, but seemed detrimental to the health of the fowls. Another important point made in the book is that hard-coal ashes are an excellent substitute for charcoal, lime, and grit. Where the fowls have access to the ashes they seem to care very little for their regular grit and shells. If you have a touch of the poultry fever you can not afford to be without this new and up-to-date book. If our company have not already done so, I hope they will soon make arrangements to offer it at a low figure clubbed with GLEANINGS.

After so many kind words I want to mention one or two possible objections. First, the Corning book pronounces the "baby-chick business" cruel, and advises against it. Surely they are not posted in regard to the magnitude of the business in certain parts of Ohio, and also of the number of satisfied customers who continue, year after year, to buy chicks instead of eggs. I would not mention my other criticism, were it not that I feel I must do so to be absolutely fair. It is this: The book all together is a splendid advertisement of their (comparatively recent) business of selling eggs for hatching, as well as fowls for breeding. Do you suggest to me right here that the same might be said of the A B C of Bee Culture? You are right—at least to a certain extent, and the same might be said of a great part of our most valuable rural and other books. An important item comes in here, however, and I think I can make it plain if you will listen. The Corning people first started to produce sterile eggs for food consumption only, and the first book put out by our good friends of the *Farm Journal* so stated it. So long as this was true, there could be no cause for exaggeration or for dwelling on the brightest side of the story. Well, on one page, in the middle of this beautiful book, we are told that, during the year 1910, they returned money for more than 50,000 eggs for hatching. I do not know what they get for eggs for hatching. If but little more than for those for table use, the point I am making amounts to little or nothing. If they get (like Kellerstrass), a dollar apiece (or more) for choice eggs. I feel troubled about recommending this beautiful book. Yes, I might as well own up that I feel troubled when I see some boy or girl send off for eggs that cost anywhere between a dollar a dozen or a dollar apiece. When these high-priced chickens don't lay any more eggs than those they had already, I feel *more* troubled. The poultry journals keep telling their readers to be sure to "buy the best" to start with. A woman went into a seed-store and found they had seeds of two qualities—one grade much higher in price. Looking sharply into the seedsman's eyes she said, "If I pay for the best, am I *sure* to get it?" In conclusion, I believe the Cornings will give you full value for every thing they receive, just as they have in sending out this beautiful and valuable book.

The Northern Michigan Bee-keepers' Association will hold its next annual meeting at Traverse City, March 13 and 14, 1912. Headquarters will be at the Whiting Hotel, where special rates have been secured; and in its parlor on the second floor the meetings will be held. A good program will be provided, and we hope to see many new faces as well as the old.

East Jordan, Mich.

IRA D. BARTLETT, Sec.